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# PACIFIC Pulp & Paper INDUSTRY



The bleaching power of chlorine  
was discovered by Berthollet  
about 1787

# CHLORINE

America's first commercial quantity  
of liquid chlorine was shipped by  
Pennsylvania Salt Manufacturing  
Company in 1909.

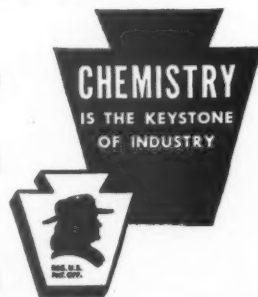


For over a century and a half chlorine has been serving as a commercial bleaching agent. However, it was not until the early part of the 20th century that the use of chlorine gas for the bleaching of wood pulp began to develop into a successful process.

Pennsylvania Salt Manufacturing Company takes pride in having contributed to the advancement of the paper industry by being first to make liquid chlorine available in commercial quantities—at its Wyandotte, Michigan, works in 1909. As another progressive step, Penn Salt overcame the problem of introducing chlorine gas into the pulp slurry by a patented dispersion method.

Chlorine is one of the most versatile and competent of chemical servants. It has contributed much to the advancement of industry and the improvement of products. At Penn Salt, exploring its greater possibilities for future service is an important activity.

**PENNSYLVANIA SALT**  
MANUFACTURING CO. OF WASHINGTON  
*Chemicals*  
**TACOMA, WASHINGTON**





*The Journal of the  
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## Paper Stretchers Prove Successful Substitute for Canvas

Need for emergency stretchers creates idea of using heavy kraft paper in place of scarce canvas / / / Large potential market among civilian defense agencies.

MANY a papermaker can recall the embarrassing jokes played on him when he first started work in the mill as a green kid. One of the standard ones was to send a new hand around the plant asking for a paper stretcher. It's no longer good and practical jokes among papermakers had better not pull it anymore. Its apt to bounce.

There actually are paper stretchers in use today, but they don't stretch paper. They are stretchers made of paper instead of scarce canvas. And they show promise of satisfactorily meeting a war-time emergency. Their success reflects great credit upon kraft pulp and papermakers who have produced an exceptionally strong sheet for heavy duty bag service.

In recent months similar paper stretchers have been developed at two widely separated points on the Pacific Coast, St. Helens, Oregon, and San Francisco, California.

Necessity again mothered invention following that December Sunday at Pearl Harbor, and paper went to war in still another way.

Faced with an urgent immediate need for 2000, and probably double that number in event of attack, the San Francisco Department of Public Health found its ambulance corps equipped with only 400 stretchers.

Dr. J. C. Geiger, veteran health officer who heads the department, called his aides into consultation. Canvas was costly and scarce, now unobtainable for the purpose. The conference developed into a long series of tests and experimentations, and from them evolved paper's latest contribution to public health and the war effort—the paper stretcher.

Under the guiding genius of Dr. Geiger, his Chief Inspector, A. B. Crowley, and C. M. Wallenberg, superintendent of the Laguna Honda Home for the aged, the stretcher was developed by using as working models discarded paper bags which originally contained cement. Assisting in the development work was H. L. Wollenberg, president of the Longview Fibre Co., San Francisco.

Although still in the experimental stage, all city ambulances have been

equipped with paper stretchers for the past three months and they have proved highly satisfactory in actual service.

The municipal fleet of 15 ambulances, now augmented by three loaned by the British American Ambulance Corps, handles approximately 80,000 persons a year, or close to 7000 a month, a large majority stretcher cases. A paper stretcher on continuous 24-hour service is averaging five days' use before being discarded. During that time it is used in handling from 300 to 400 persons.

Paper stretchers cost less than 40 cents each, as against a former cost of \$4.50 each for canvas stretchers, when that material was available.

The stretcher consists of four sheets of 65 lb. kraft, approximately 53x72 inches, and a cover sheet of 75 lb. waterproofed kraft. Each sheet is glued together with a one-inch overlap, and the ends are stapled, leaving room to insert the carrying poles. With poles inserted, this provides a stretcher of standard dimensions, approximately two feet wide by six feet long.

A recent development is a flange of a two-inch strip of the heavy waterproofed cover stock over the ends, which not only strengthens the stretcher but prevents tears in handling.

The kraft paper used in the stretchers is manufactured by the Longview Fibre Company at Longview, Washington, and is converted into stretchers by the Bates Valve Bag Division of the St. Regis Paper Company at Emeryville, California.

Dr. Geiger sees in the successful use of paper stretchers by the San Francisco Department of Public Health an opportunity for the industry to put paper to new and important universal service.

Paper has many advantages, in addition to economy. It eliminates laundry, in which blood-stained canvas, treated with strong chemicals, rapidly becomes worn, torn and frayed, and such stains never are entirely removed. In event of gas attacks, the health officer pointed out that paper stretchers "become an ab-



solute necessity." Fabrics contaminated with poisonous gas must be subjected to special treatment before being made safe for reuse, if not entirely destroyed.

Persons of all sizes and weights successfully have been handled on paper stretchers during the past two months without the slightest mishap. Testing efficiency for wet weather use, a large pail of water was emptied on a paper stretcher, permitted to stand for two hours, poured off and the stretcher, apparently undamaged, then carried a weight considerably greater than an average person.

● "Paper stretchers are imperative in this emergency," declared Dr. Geiger. "They are cheap, easily and quickly made. Canvas now is not obtainable at any price, but there is an abundance of good paper, and a couple of poles always are available. There you have the major materials for making these stretchers . . . and they may be needed in great numbers on a moment's notice."

#### The Jaite Stretcher

● A first aid, emergency stretcher has been made of kraft paper by the Jaite Paper Bag Company, St. Helens, Oregon, which carries loads up to 350 pounds. This product manufactured by the Jaite Paper Bag Company came as a direct result of the need for more stretchers caused

by the war. According to L. A. Linville, manager, the need was recognized and the paper stretcher was the result.

The stretcher is made of four heavy sheets of the St. Helens Pulp & Paper Company's strong kraft paper. These are folded lengthwise at the middle of the four sheets, brought together at the edge opposite the fold. The eight edges are enveloped with a strip of reinforcing creped tape, running the full length of the stretcher, and stitched, making the stitched edge as strong as any other part of the stretcher. The outside layer of kraft paper is waterproofed, which makes the stretcher waterproof both bottom and top.

The waterproofed kraft paper makes it possible to place the stretcher on the wet ground or for general use in wet weather and still provide protection to the patient. Since the stretchers can be made quickly, cheaply and in large quantities, it will not be necessary to remove a patient from one when he is delivered to a first aid station. Instead, the poles, which fit at either side of the folded kraft stretcher bed, can be pulled through the open ends without molesting the patient.

To date several of these kraft stretchers have been provided to local Civilian Defense organizations in Oregon.

### High School Boys Working Part-Time at Camas

● Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, Washington, decided at a meeting of the personnel department of the plant and school officials in early September to adopt a four-hour split shift schedule to permit some 60 high school boys to work part time in the mill. Students may work from two until midnight, but none can work the graveyard shift. The ruling applies to boys 16 years old and older.

The agreement was reached to serve a two-fold purpose of providing all help possible at the mill and to enable boys to earn money and continue their education at the same time.

V. C. Gault, personnel supervisor; E. A. Paul and Mrs. Vera Berney represented the mill at the meeting and Superintendent D. F. Olds was the school representative.

### Taylor Alexander Named Sales Manager of Leadbetter Mills

● Taylor Alexander, who has been resident manager of the California Oregon Paper Mills, Division of the Columbia River Paper Mills, at Los Angeles, has been appointed sales manager of Columbia River Paper Mills, Oregon Pulp and Paper Company and California Oregon Paper Mills. He will also be in charge of the sawmill divisions of Columbia River Paper Mills at Vancouver, Wash., and Oregon Pulp and Paper Company at Salem, Oregon. Mr. Alexander held the Los Angeles post for four years.



Dr. J. C. GEIGER, Director of Public Health, City and County of San Francisco, watches the demonstration of his newly developed paper stretcher by three of his aides. These paper stretchers have been used for the past three months by San Francisco's ambulances.



## Sorg Experimenting With Jack Pine

● Sorg Pulp Company, operating a kraft pulp mill at Port Mellon on Howe Sound, B. C., is experimenting with the use of jackpine in a new pulping process.

Larry Harris, chief chemist at the company's Port Mellon laboratory, is in charge of the experimental work, which is regarded as of special significance in view of the fact that there are extremely large stands of jackpine in British Columbia that may be made available for pulpwood if the tests prove satisfactory.

General manager H. N. Simpson says that the experiment has not yet made sufficient progress to warrant a description of the process. "We can't even say yet that we've got something worth while," said Mr. Simpson. "But we're hoping."

Most of the jackpine is being shipped down to Squamish over the Pacific Great Eastern Railway, owned by the provincial government. It is being cut and prepared for loading by Japanese evacuated from the coastal areas and now quartered near Lone Butte and other points on the southern Cariboo plateau.

Sorg Pulp Company has gradually stepped up production to about 100 tons of kraft pulp a day. The entire output is being shipped to the parent company at Middletown, Ohio.

The sawmill at Port Mellon is being operated for the company's own use and none of its lumber is being sold on the open market.



The JAITE PAPER STRETCHER recently developed by L. A. LINVILLE, Manager of The Jaite Paper Bag Company, St. Helens, Oregon.

## Women Working In Powell River Mill

● A considerable number of women, most of them wives or daughters of men already employed by the Powell River Company, are now at work in the mill buildings, doing a wide variety of the lighter jobs not requiring much skill.

So far, according to Powell River executives, the experiment has been highly successful and it is the plan to engage as large a proportion of women as possible inasmuch as there is little or no guarantee these days as to how the male personnel will survive national selective service, enlistment and other factors.

Powell River Company has lost more than 400 men to the armed services so far, and this is regarded as probably a record for the industry. Enlistments represent about 25 per cent of the entire labor force at Powell River, and while in the main replacements have been satisfactory it has been impossible in most cases to obtain men of experience.

"The safest way we felt would be to train women for the jobs wherever possible," a Powell River Company official told Pacific Pulp & Paper Industry. "We are probably in a better position than other companies in British Columbia in this respect because of an easier housing accommodation and the large number of families to draw upon in the mill community itself."

The Powell River Company almost since its inception has established a policy of all white labor and consequently was not obliged to face the complication confronting two or three other mills when they had to replace some 800 Japanese workers.

## Hawley Adding To Office Building

● Hawley Pulp and Paper Company, Oregon City, Oregon, is building a second-story addition onto the office building, increasing accommodations to the employees. The expansion includes a kitchen, community room, ladies lounge, powder room and washroom.

## The Cover Photograph

Shows Mrs. BESSIE HADSALL operating a lathe in the HAWLEY PULP & PAPER COMPANY'S machine shop.

The Pacific Coast pulp and paper industry's machine shops are busy on non-profit subcontracting work for the War Program. Only just enough mill maintenance work is being done in the shops to keep the plants operating.

The goal is 100 hours work for each shop. The limiting factor is the shortage of skilled help. As training programs produce more semi-skilled women and older men the hours worked will steadily increase.

In this very important way the industry is contributing directly toward winning the war.

## Ossian Anderson Dies Suddenly

Pulp industry leader, President of the Puget Sound Pulp & Timber Company and Vice President of the St. Regis Paper Company, dies of a heart attack in Vancouver, B. C., September 21st.

● Ossian Anderson, a pioneer builder of the modern wood pulp industry in the Pacific Northwest and an aggressive leader in the effort to make the United States independent of foreign wood pulp, died suddenly the night of September 21st. Death was caused by a heart attack while Mr. Anderson was in his hotel room in Vancouver, B. C. He would have been 51 this coming Christmas Day.

His death was unexpected for he put in his usual busy day on Monday. A week before while in New York a cold had kept him in bed for several days but he had apparently recovered from it.

Although Ossian Anderson was born in Ursviken, Sweden, he was an American through and through and his entire business career was dominated by a desire to combine mechanical and chemical utilization of the timber resources of the Pacific Northwest for the benefit of the country. He firmly believed that the one way to place the timber industry on a perpetual basis was to provide through complete utilization, market prices high enough to encourage the growing of trees. He fought continually for protection of the domestic wood pulp industry against foreign imports priced below American costs. But while carrying on this battle he took his place in the forefront of the developers of wood pulp production in the Pacific Northwest by building modern mills without benefit of market price protection.

Today, the United States and her allies across the sea and in the Southern Hemisphere are independent of European wood pulp largely because Ossian Anderson and a few other men of vision and courage overcame seemingly insurmountable obstacles and provided the cellulose supply now so vital in the prosecution of the war.

Though a busy man Ossian Anderson always was thoughtful of his friends, of whom he had a great many loyal ones not only in the United States and Canada but in South America, in England and in Sweden.

● "My close friendship with Ossian Anderson," said Roy K. Ferguson, president of the St. Regis Paper Company, New York, began in 1936 when he agreed to join us in the work of reopening and rehabilitating our Tacoma pulp mill. The successful completion and operation of this project, together with the other plants in the Pacific Northwest built by Mr. Anderson, serve as monuments of achievement to his successful career.

"His business ambitions were completely devoted to the growth and development of the wood pulp industry of the Pacific Northwest, and his full knowledge of conditions in its branches made him an outstanding leader in the industry.

"His courage, generosity, loyalty and worthy aims made association with him a rare privilege and his passing is a distinct loss to all who came in contact with him."

Ossian Anderson was the third son of Anton and Matilda Anderson. In 1910 he came to Seattle and joined an uncle, Nils Anderson, who was a logger. His first four years in the Pacific Northwest were spent mainly in attending schools and college. Summer vacations were devoted to working in the woods as a logger. When his schooling was completed he joined his uncle, a pioneer logger who had been operating since 1882. For five years Ossian Anderson worked in the camps as a swamper, faller, sawyer and foreman. This period coincided with changing methods of logging. It was becoming more and more mechanized and the realization was growing that the timber cut was not being utilized to its maximum value. Too, logging was moving toward higher elevations where the percentage of Western hemlock was larger. In those days hemlock was the "poor relation" of the lumber industry. There was little market for it anywhere. Ossian Anderson realized that the continued prosperity of the timber industries was tied to the problem of finding a market for the hemlock trees.

In 1919 Mr. Anderson, with two of his brothers, Arthur and Edward,

joined forces and capital and bought a small sawmill at Tumwater Falls just outside of Olympia, Washington. The next year the other three brothers, Sten, Karl and Olof joined them and the family branched out into logging and a little later built a sawmill at Mendota in Lewis County. In 1922 the Anderson brothers began the production of pre-fabricated houses which became famous as the "Tumwater Ready-Cut Homes." It is said to have been the first venture of its kind in the West and became highly successful. The Olympia Harbor Lumber Company, a cargo mill, was purchased in 1924 and was operated by Arthur Anderson until his death and is now run by Edward. It was in 1928 that the Anderson brothers built the first Swedish gang saw mill in the Pacific Northwest, the Tumwater Lumber Mills Company. It was built to cut small logs, uneconomical for the large mills to handle. This was the forerunner of many gang saw mills which now contribute toward a greater utilization of the region's timber.

● In 1924 the Anderson brothers embarked upon their first wood pulp venture. R. S. Talbot had built an unbleached sulphite pulp mill at Anacortes, Washington, the first on Puget Sound to attempt the production of pulp for market. The plant ran into difficulties and the Anderson brothers stepped in putting their own money and the money of friends into the venture. This plant, the Fidalgo Pulp Manufacturing Company, had been built to use small hemlock and hemlock sawmill waste.

Ossian Anderson, with his organizing ability, assumed leadership of the wood pulp venture. The Anacortes plant progressed and in 1925 the group under his leadership began construction of a second unbleached sulphite pulp mill at Bellingham, The San Juan Pulp Manufacturing Company.

Today with Pacific Coast sulphite pulps ranking among the finest produced anywhere, it is easy to forget that only 16 years ago papermakers

throughout the country did not believe a good pulp could ever be made from Western hemlock. In his selling of the output of the Anacortes and Bellingham plants, Ossian Anderson faced an uphill battle. Two problems had to be solved. Operators had not learned how to make the best possible pulp from Western hemlock and, on the other hand, papermakers in other parts of the country did not know how to convert it into their various grades of paper. Mr. Anderson worked night and day to improve his pulps and to persuade papermakers to use them.

The two mills prospered and in March of 1929 they were combined in a new company which in its formation acquired large timber stands in the Cascade mountains. The new concern, the Puget Sound Pulp & Timber Company, began the construction of a third mill, a modern bleached sulphite pulp mill at Everett, Washington, with a daily capacity of 175 tons.

The new plant came into production in 1930 on a declining market. Foreign pulp prices were being severely cut and consumption was dropping far below normal. The great depression was in its early stages and the new mill could not show a profit. In 1932 conditions reached an impasse and the organization was split, the bondholders acquiring the new mill and forming the Soundview Pulp Company to operate it. Mr. Anderson and his associates retained the two mills at Anacortes and Bellingham and the timber and logging railroads. Under Mr. Anderson's leadership the company survived the depression and made progress.

● Early in 1936, the St. Regis Paper Company, which had acquired the unbleached sulphate pulp mill constructed at Tacoma in 1928 by the Union Bag & Paper Company, asked Mr. Anderson to supervise the modernization of the plant and the installation of a bleach plant. He was made executive vice president of the St. Regis Kraft Company, Division of the St. Regis Paper Company, and later when the subsidiary was absorbed he became a vice president and a director of the St. Regis Paper Company.

He assumed the responsibility with his usual vigor and had the revamped mill operating late in 1936. He continued to supervise its operation until his death, seeing it through a period of development to the point where the mill is recognized as an outstanding producer

of bleached sulphate pulp in the country.

The same year, 1936, Mr. Anderson began work on plans for a new and modern unbleached sulphite pulp mill at Bellingham to expand production of the original plant. Construction started in 1937 and the mill was in operation early in 1938. In 1940 an expansion program was completed, raising the output of the combined plants at Bellingham to approximately 480 tons per day.

Late in 1940 the Anacortes mill was sold to the Scott Paper Company and the Puget Sound Pulp & Timber Company concentrated production at Bellingham. At the close of 1941 Mr. Anderson and associates acquired approximately 100,000 acres of timberlands on Vancouver Island and several logging concerns. Logging by the newly acquired concern, the Canadian Forest Products, Ltd., was just getting under way at the time Mr. Anderson passed away in Vancouver, B. C.

● Ossian Anderson's works and interests were varied. "Americana," published by the American Historical Company, Inc., in an article, "Ossian Anderson, Industrial Leader," by J. J. McDonald, appearing in the second quarter issue for 1941, said in part:

"He is, and has been, a staunch advocate of conservation of natural resources, of the protection of the lumber, pulp and paper industries of the United States, and of all things vital to his chosen field. Noteworthy among his speeches and writings are 'The Relation of the Western Pulp and Paper Industry to Our National Forest Industries,' containing answers to the information desired by the Timber Conservation Board in June, 1931; 'A Letter to the President's Organization for Unemployment Relief,' October, 1931; 'Suggested Discussion at the National Chamber of Commerce Meeting at San Francisco,' May, 1932; 'A Five Year Plan for the Relief of Unemployment and Enhanced Industrial Activity in the United States,' June, 1932; a letter to President Franklin D. Roosevelt on the conservation of forests and their use in the solution of the problem of unemployment, April 1, 1933; 'A Statement of Facts Pertaining to One of Our Largest Resource Industries, and the Reasons Contributing to its Elimination from the Productive Field in the United States,' 'Saga of Pulp and Paper Making,' published in 1940 is the best brief story of the manufacture of paper from the days when man began to

make records on this material to its present enormous development. No doubt there are many other of his papers and addresses deserving of mention, but enough has been named to indicate the breadth of his knowledge, his endeavors to further a great industry, and his vigorous Americanism. He has fought for justice and understanding, for breadth of view and national progress. What he has said and written are marked by comprehensive information, clarity of expression, and the will to serve."

"He visioned many changes in the pulp field," said The Bellingham Herald of September 22, 1942, "and just before his death he had been conferring with his associates regarding the future of the pulp industry is to play in the post-war period. He spent weeks, also, at Washington, D. C., attempting to interest the Government and Congress in the production of alcohol from waste sulphite liquor and planned for construction of such a plant here should obstacles against the entry of the pulp industry into that field, be removed. At the time of his death, the obstacles had not been removed, but he was continually striving for the welding of the industry into new wartime uses—and for the post-war period—domestic uses, his associates said."

In the immediate family surviving Mr. Anderson are his widow, Mabel; two sons, Robert and Eugene; a daughter, Lois, and three brothers, Edward, Olof and Karl. Funeral services were held on September 25th in Olympia, Washington.



**OSSIAN ANDERSON, Leader in the development of the Pacific Northwest pulp industry.**



## Barber Named to WPB Development Committee

Committee will assist new War Production Development Section, Pulp and Paper Branch, WPB, in coordinating and accelerating research toward extending the substitution of pulp, paper and paperboard products for critical materials.

● W. R. Barber, technical director, Crown Zellerbach Corporation, with headquarters at Camas, Washington, has been appointed a member of the War Production Board's Paper Industry Technical Development Industry Committee.

This new committee will work with the Pulp and Paper Branch of the WPB by assisting in a study of (1) what products the industry is now making for war purposes; (2) what products suitable for war or essential civilian use are now being developed; (3) what substitute products the several war agencies might be able to obtain from the pulp, paper and paperboard industry. These objectives were outlined by John G. Strange of the War Products Development Section, Pulp and Paper Branch, speaking before the Fall Meeting of TAPPI in Boston, September 30th. Mr. Strange, formerly secretary of the Institute of Paper Chemistry, Appleton, spoke on "New Papers and Paper Products for War Needs."

A large number of mill organizations have pledged their cooperation on research and the use of patents for the common war effort, Mr.

Strange said. The committee, just appointed, will serve in an advisory capacity to the WPB to coordinate research toward the substitution of pulp, paper and paperboard products for critical materials in essential war and civilian uses. Every effort will be made to avoid duplication of research.

Other members of the committee which was announced October 7th, are: C. M. Conner, technical director, Glassine Paper Co., West Conshohocken, Pa.; Walter G. Hendrich, technical director and production manager, Byron Weston Company, Dalton, Mass.; L. S. Johnson, chief chemist, Cornell Wood Products Co., Cornell, Wisconsin; Harold R. Murdock, director, research department, Champion Paper & Fibre Co., Canton, N. C.; H. A. Rothchild, technical director, Kimberly-Clark Corp., Neenah, Wisconsin; and M. O. Schur, director, research and development department, Brown Company, Berlin, N. H.

The data developed, Mr. Strange told TAPPI members, will be made available to the entire industry, except in those cases where strict censorship is necessary. All mills are invited to make full use of the new War Products Development Section, Pulp and Paper Branch, War Production Board, 3432 Railroad Retirement Building, Washington, D. C.

This move by the WPB to coordinate and accelerate research toward a greater use of cellulose fiber products as substitutes for critical materials, is most timely, and it is expected the results will prove valuable to many mills in enlarging their production of war products. (See editorial, "Coordinated Research a War-Time Necessity," page 42, September, 1942, issue, Pacific Pulp & Paper Industry).

### Western Wax Men Catch Fish

● Cecil L. Dilling, manager, and George W. Donald, sales manager, both of Western Waxed Paper Company, Division of Crown Zellerbach Corporation, Portland, Oregon, vacationed together on a fishing trip at Astoria, early in September. It is rumored that they both caught fish.

### Pacific Paperboard In New Offices

● Pacific Paperboard Company, Longview, Washington, occupied the new office building at the plant the first of September. This is an English type building, and one-half story construction 88 feet long by 42 feet wide. A large general office and eight private offices occupy the ground level, while there are seven general rooms on the upstairs floor. Although not yet completed, there is to be a kitchen and dining room on the upstairs level of the new office building.

Walls and ceilings are finished in variegated Nu-Wood, the tile type used on the ceiling and the plank on the walls. Tan colored battleship linoleum covers the floors. The office is lit with modern fluorescent lighting equipment and has air-conditioned steam heat.

Until the first of September, when the new building was occupied, the office was in a part of the plant building. This former office is now being converted into storage space and an addition to the building is under construction. The conversion and addition will provide approximately 19,000 square feet of storage space and will increase the size of the finishing room. About three times as much storage space as formerly will now be available, according to E. E. Flood, president.

The addition of standard stone tile and timber construction is expected to be completed about the first of November.

### Tipka Leaves Hawley For the Army

● V. L. Tipka, research engineer, Hawley Pulp and Paper Company, Oregon City, Oregon, left on September 22nd to become a member of the United States Army.

### Hawley No. 1 Machine Repaired in Week's Time

● The number one machine of Hawley Pulp and Paper Company, Oregon City, Oregon, was shut down for one week in September for repairs. Rather extensive work on the steam engine powering this machine included reboring the cylinder, placing a new foundation under the engine and installation of a new piston.

A new Black-Clawson spiral, bevel gear drive for the couch roll replaced a core-drive reduction unit. Dukkak rolls, with anti-friction bearings of the company's own design, have been installed on number one machine as has a new bronze shake rail; also a vacuum pump for the suction press, using V-belt drive.

Number one machine room was cleaned and repainted during the shut down and the water wheel powering number one beater room was repaired.



**W. R. BARBER, Technical Director, Crown Zellerbach Corp., named to WPB Technical Development Committee.**

## Stockton Employees Receive Service Awards

● Rounding out a fifth of a century of continuous employment, 23 veteran employees of the Stockton plant of Fibreboard Products, Inc., were special guests of honor September 15 at an annual Service Pin banquet sponsored by the Pivot Men's Club at Stockton Golf and Country Club.

With them, sharing honors of the evening, were 39 other loyal and faithful employees whose tenure of employment ranged from five to fifteen years.

Extending unstinted congratulations and good wishes were executives from the San Francisco office, headed by T. Noel Bland, vice-president and assistant general manager. Others who found high favor to pay their loyal army of veteran employees were V. C. Hobbs, secretary; J. F. Garvin, treasurer; N. M. Brisbois, vice-president in charge of all plant operations; Willis H. Thomas, assistant general sales manager; Paul H. Keller, plant manager, Stockton division, and F. M. Holland, sales representative from Sacramento.

For vice-president Brisbois the date had dual significance. It was his fourteenth wedding anniversary and the genial directing head of operations was target for a barrage of good-natured barbs and recipient of unanimous well wishes.

Nor did he neglect, when presented by plant manager Keller, who presided, to extend greetings from Mrs. Brisbois, unable to attend. Calling attention to the fact that what now is the 27-acres-under-roof Stockton plant started production in 1918, Mr. Brisbois announced that 68 diamond-studded 20-year service pins had been awarded, of which 62 of these employees still are on the payroll.

He outlined the organization, purpose and activities of the Pivot Club, and paid high tribute to the effectiveness of the plant's "Suggestion" system inaugurated 18 years ago. Of some 3000 suggestions submitted by employees, at least two-thirds were found usable, he said, and immediately were put into effect.

Vice president Bland, with keen sense of humor and a kindly friendliness which immediately put recipients at ease, personally presented the service pins. Sternly he called all to account and to make the most of their every activity "because this war business is deadly serious business."

His personal appreciation and sentiment toward employees, he said, could not be more adequately expressed than in the message on the card to which each service pin was attached. He read: "The executive officers are expressing their appreciation of your continuous and faithful services for the period indicated on the pin, coupled with the hope that your connection with the company may continue from period to period indeterminately, and that you may have health, happiness and increasing prosperity."

In all, 80 service pin awards were made. In addition to 23 in the 20-year bracket were 33 for 15 years; 5 for 10 years, and 19 for 5 years. All were not present, some are in the armed forces, others were unable to attend because of illness or assignment to key jobs on the night shift at the plant.

Service pins were awarded to the following, with notation of the department in which they are employed:

### 20-Year Awards

● Jack J. Saunders, Julius Elliott, Charles Clark, Charles W. Dawson, Edward Lucchesi, Frank Deloney and Walter Place, all of the Board Mill.

Philip Robinson, M. J. Welser, Harold Douillard, Rose Hall, Victor Capurro, Gus Swenkofsky and Alonzo Kimes, all in Solid Fibre.

Pauline Frausto, Nettie Kasch and Arthur Chisholm, in the Carton department.

Henry Baumann, Martin Puente, Louis Messick and John Reaves, all in Maintenance.

Allen Todresic, shipping, and Gladys Holley, Office.

### 15-Year Awards

● G. Gardia, Carol Mapes, Andrew Cervantes, Marano Gardia, Blas Bogarini and Carl H. Reynolds, of the Board Mill.

Sam Manning, Theodore Mellor, Manuel Pimentel, Frank Mancini, Lawrence Maimone and Dana Tucker, of Solid Fibre.

John Mangili, Jr., Walter Wegner, James Billups, Edward Malanca, John Caviglia, Floyd Clark, Marie Kasch and Lawrence Seifert, in the Carton Department.

C. J. Barone, August Cabral, Garland Medford, George Ragsdale, Nels A. Erickson, Francis E. Sun-

day, Ed J. Faunce and Wesley Johnston, in Maintenance.

Joseph Chiesa, Power department, and Fred Vanni, shipping.

James C. Benschoter, Frank Cook and George D. Cogorna, in the Office.

### 10-Year Awards

● Clifford Clites, Board Mill; Nellie Gammon, Solid Fibre; John Sbragia, Olga E. Capps and Ruth Coble, in the Carton department.

### 5-Year Awards

● Samuel Doiron, Arthur Gale, Manuel Garcia, Jim Place and Marion Gorley, all of Solid Fibre.

Levy E. Naumann, Angelina Holmes, Helen Peterson and Dahlia Rogan, in the Carton department.

Ray Winterbower, Board Mill; Tilyo Ravo, Corrugating; Lloyd Whitcher, Maintenance; Theophile Markov, Laboratory, and Leona Killean, Office.

Employees already in the U. S. armed forces to whom awards were made include: James Pellanda, Jr., Board Mill; Henry Gottasche, Carton; Leslie Anderson, Maintenance; Walter A. Keller, Solid Fibre; and Ben V. Giuliani, Office.

Although prevented by their new duties from being present personally to receive their service pins, the quintet won rousing cheers and good wishes from their co-workers.

## Cease News Shipments To Australia, New Zealand

● British Columbia paper mills have ceased shipping newsprint to Australia and New Zealand, but they are maintaining the flow of pulp to be used by the new Derwent Valley paper mill in Tasmania.

The British Columbia pulp, shipped by Powell River Company and Pacific Mills, Ltd., under the terms of a long-term contract, is mixed with the Australian gumwood and other native species in the manufacture of newsprint.

Transportation facilities due to war conditions are alone responsible for the suspension of newsprint shipments across the Pacific, but Australian and New Zealand requirements have been greatly reduced by rationing of publications.

The Derwent Valley mill, designed and supervised by the late Percy Sandwell, well known in the Pacific Northwest, was completed just in time to meet the war supply program. Without it Australia would now be experiencing a paper famine.

## Everett TAPPI Dinner Draws Large Crowd

Despite transportation difficulties attendance equals last February's meeting with over 100 men present. Indicates feeling among members that the value of the meetings justifies their continuance.

● The attendance of over one hundred men at the first TAPPI dinner meeting of the 1942-1943 season indicated to the Executive Committee of the Pacific Section that its decision to continue in spite of wartime transportation difficulties, meets with the approval of the men in the mills.

Chairman Edward P. Wood, in opening the meeting, said there had been some discussion as to the advisability of suspending the meetings or holding them at less frequent intervals. "But," he said, "the large attendance here tonight leads us to believe the meetings are wanted. So we will continue to carry on until we think a change is desired by the membership. I would like to urge, however, that those planning to attend send in their cards, for tonight we have nearly twice as many as were expected."

Chairman Wood stated that the Executive Committee had decided to again offer the Shibley Award as outlined in the September issue of PACIFIC PULP & PAPER INDUSTRY.

The first speaker on the Everett dinner meeting program was Clyde F. Holcomb, assistant district manager, Edison Storage Battery Supply Company, Seattle, whose subject was, "The Application and Maintenance of Industrial Trucks in Pulp and Paper Mills." Mr. Holcomb's paper appears in full elsewhere in this issue. He stressed the importance of keeping industrial trucks in first class operating condition and, too, the devising of methods by which the available equipment can be adapted to handling jobs other than those for which it was originally designed. Too often, said Mr. Holcomb, industrial trucks designed for a specific job are employed without adaptation to other duties, resulting in inefficient operation.

The second paper was presented by R. S. Hatch, research director, Weyerhaeuser Timber Company, Longview, Washington. Mr. Hatch described "A Quick Method of Viscosity Determination on Sulphite Pulp." This new method will provide a viscosity figure within 40

minutes. Actually, Mr. Hatch told the group present, the test can be completed within 30 minutes after the testers become familiar with it.

Following the reading of the paper, moving pictures were shown of the test being performed. In answer to questions Mr. Hatch replied that the aluminum balls used in the new method cost \$11 per thousand and were obtained from the Hartford Steel Ball Company of Hartford, Conn. These balls are accurate to within one ten-thousandth of an inch. Before being used at the laboratory they are checked for specific gravity. Should the aluminum balls become unavailable, glass balls can be used, although as pointed out in the paper, they are not considered as satisfactory.

Mr. Hatch stated that the glass tubes are readily obtainable from the Corning Glass Works of Corning, N. Y. Sharkskin filter paper is used. Mr. Hatch's paper appears in this issue.

The Everett dinner meeting concluded with a showing of The Texas Company's moving picture, "Deep Horizons." A vote of thanks was given to Harold Bialkowski, who had charge of arrangements.

### The November Dinner Meeting

● Chairman Wood announced that the next dinner meeting will be held on Tuesday evening, November 3rd at Camas, Washington, with

Herbert C. Wymore of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, in charge of arrangements.

Vice chairman Clarence A. Eng-house said the program planned will include a paper on the use of Micarta in the pulp and paper industry, a timely subject as Micarta is being employed as a substitute material. A. B. Thomander, Micarta specialist of the Pacific Coast district, Westinghouse Electric & Mfg. Co., will give the paper.

A second feature of the November program will be a moving picture, "Keep 'Em Rolling," produced by the B. F. Goodrich Co. The picture emphasizes the various methods of conserving rubber by industry as well as by the average citizen. It also describes Ameripol, the Goodrich synthetic, the multifold uses of rubber in the war effort, and the manufacture of rubber tires.

Reservations should be sent to Mr. Wymore at Camas immediately upon receipt of the return post card.

The following attended the TAPPI dinner meeting at Everett, Washington, on October 6th:

● Gerald Alcorn, Pulp Division Weyerhaeuser Timber Co., Everett; B. W. Bailey, Soundview Pulp Co., Everett; E. R. Barrett, A. O. Smith Corp., Seattle; Henry E. Becker, Soundview Pulp Co., Everett; H. K. Berger, Everett Pulp & Paper Co., Everett; W. L. Beuschlein, University of Washington, Seattle; Harold W. Bialkowski, Pulp Division Weyerhaeuser Timber Co., Everett; Gerald A.

### The November TAPPI Dinner

Will be held at Camas, Washington, Tuesday evening, November 3rd at 6:30 p. m.

The program will include a paper on the uses of Micarta in the pulp and paper industry by A. B. Thomander, Westinghouse Electric & Mfg. Co.; and, a moving picture "Keep 'Em Rolling," by the B. F. Goodrich Company.

Reservations should be made with Herbert C. Wymore, Crown Willamette Paper Co., Division of Crown Zellerbach Corporation, Camas, Washington, as soon as possible in order that plans can be made to take care of all who attend.



Brand, Everett Pulp & Paper Co., Everett; James Brinkley, Pacific Coast Association of Pulp & Paper Manufacturers, Seattle.

N. M. Brisbois, Fibreboard Products, Inc., Stockton, Calif.; A. M. Buck, Pulp Division Weyerhaeuser Timber Co., Everett; Leo S. Burdon, Soundview Pulp Co., Everett; Allen M. Cadigan, St. Regis Paper Co., Kraft Pulp Division, Tacoma; Claude Callaghan, The Flox Co., Tacoma; Claude Christiansen, St. Regis Paper Co., Kraft Pulp Division, Tacoma; E. Christoferson, Soundview Pulp Co., Everett; Sidney M. Collier, Puget Sound Pulp and Timber Co., Bellingham.

N. W. Coster, Soundview Pulp Co., Everett; J. V. B. Cox, Hercules Powder Co., Portland; W. E. Crosby, Pacific Pulp & Paper Industry, Seattle; John Doering, Pulp Division Weyerhaeuser Timber Co., Longview; R. E. Draper, Pulp Division Weyerhaeuser Timber Co., Everett; E. G. Drew, Hesse-Ersted Iron Works, Portland; Art Drips, Everett Pulp & Paper Co., Tacoma; A. E. Duke, Soundview Pulp Co., Everett; C. A. Enghouse, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., West Linn, Ore.

E. O. Ericsson, Puget Sound Pulp & Timber Co., Bellingham; H. R. Erickson, Soundview Pulp Co., Everett; A. L. Fleenor, Everett Pulp & Paper Co., Everett; H. C. Florence, Pulp Division Weyerhaeuser Timber Co., Everett; O. E. Fox, Pulp Division Weyerhaeuser Timber Co., Everett; C. P. Fulton, U. S. Treasury, Seattle; N. O. Galteland, St. Regis Paper Co., Kraft Pulp Division, Tacoma.

G. H. Gallaway, Crown Willamette

Paper Co., Division of Crown Zellerbach Corp., Camas; Irving R. Gard, Merrick Scale Mfg. Co., Seattle; A. S. Gerry, Pulp Division Weyerhaeuser Timber Co., Everett; Fred Gilmore, Puget Sound Pulp & Timber Co., Bellingham; C. W. Gould, Electric Steel Foundry Co., Portland; Al Graef, Pulp Division Weyerhaeuser Timber Co., Everett; R. N. Hammond, Pulp Division Weyerhaeuser Timber Co., Longview; D. W. Harris, C. C. Moore & Co., Engineers, Seattle.

R. S. Hatch, Weyerhaeuser Timber Co., Longview; H. A. Hauff, Pulp Division Weyerhaeuser Timber Co., Longview; Norman Heglund, Soundview Pulp Co., Everett; C. F. Holcomb, Edison Storage Battery Supply Co., Seattle; L. R. Hartman, Pulp Division Weyerhaeuser Timber Co., Everett; H. P. Huebner, Pulp Division Weyerhaeuser Timber Co., Everett; C. A. Hulsart, C. C. Moore & Co., Engineers, Seattle; R. M. Inkster, Pulp Division Weyerhaeuser Timber Co., Everett; W. N. Isherwood, Cellulose Products Laboratory, Tacoma.

Lester M. Johnson, Pulp Division Weyerhaeuser Timber Co., Everett; Ray Johnson, Pulp Division Weyerhaeuser Timber Co., Everett; Earl C. LaFave, Pulp Division Weyerhaeuser Timber Co., Everett; Harold Lange, Cellulose Products Laboratory, Tacoma; R. J. LeRoux, Pulp Division Weyerhaeuser Timber Co., Everett; J. R. Lewis, Anacortes Pulp Co., Anacortes; C. N. Linden, Pulp Division Weyerhaeuser Timber Co., Everett.

J. H. McCarthy, Soundview Pulp Co., Everett; Joseph L. McCarthy, University of Washington, Seattle; Donald P. Mc-

Phee, Pulp Division Weyerhaeuser Timber Co., Everett; Murl Miller, Anacortes Pulp Co., Anacortes; K. M. Milligan, Northwest Lead Co., Seattle; J. H. Moak, Soundview Pulp Co., Everett; T. E. Moffitt, Hooker Electrochemical Co., Tacoma.

T. H. Moran, Pulp Division Weyerhaeuser Timber Co., Everett; R. W. Moulton, University of Washington, Seattle; E. A. Norton, Westinghouse Electric & Mfg. Co., Seattle; Oscar J. Olson, Soundview Pulp Co., Everett; Adolf Orup, Soundview Pulp Co., Everett; Willis G. Peter, Hooker Electrochemical Co., Tacoma; R. T. Petrie, Black-Clawson Co., Portland; William Pittam, Pulp Division Weyerhaeuser Timber Co., Longview; A. P. Ratliff, Jr., Pulp Division Weyerhaeuser Timber Co., Everett.

E. D. Rich, Cellulose Products Laboratory, Tacoma; H. H. Richmond, Electric Steel Foundry Co., Portland; Harold C. Ricker, Pulp Division Weyerhaeuser Timber Co., Everett; S. A. Ridpath, Pulp Division Weyerhaeuser Timber Co., Everett; Oliver E. Ronken, Soundview Pulp Co., Everett; B. Rowell, Pulp Division Weyerhaeuser Timber Co., Everett; H. Radford Russell, Everett Pulp & Paper Co., Everett.

S. A. Salmonson, Soundview Pulp Co., Everett; Walter A. Salmonson, Simonds Worden White Co., Seattle; C. J. Saunders, Pulp Division Weyerhaeuser Timber Co., Everett; Barton W. Sawyer, Carlisle Co., Seattle; George B. Schetky, Roy T. Earley Co., Tacoma; J. M. Shedd, Everett Pulp & Paper Co., Everett; Thomas W. Stewart, Pulp Division Weyerhaeuser Timber Co., Everett; Harold Stoddard, Soundview Pulp Co., Everett; Allan



At the EVERETT TAPPI DINNER, October 6th, standing, left to right, R. J. LeROUX, Manager, Everett Mill, Pulp Division Weyerhaeuser Timber Co.; LEO S. BURDON, Manager, Soundview Pulp Co., Everett; R. S. HATCH, Research Director, Weyerhaeuser Timber Co., Longview, who presented a paper on "A Rapid Method for the Determination of Cellulose Viscosity."

N. M. BRISBOIS, Vice President in Charge of Operations, Fibreboard Products, Inc., Stockton, Calif.; CLARENCE A. ENGHOUSE, Assistant Manager, Crown Willamette Paper Co., Division of Crown Zellerbach Corp., West Linn, Ore., and Vice Chairman of the Pacific Section of TAPPI; EDWARD P. WOOD, Technical Director, Longview Mill, Pulp Division, Weyerhaeuser Timber Co., and Chairman, Pacific Section of TAPPI; N. W. COSTER, Technical Director, Soundview Pulp Company, Everett, and a past Chairman of the Pacific Section; CLYDE F. HOLCOMB, Assistant District Manager, Edison Storage Battery Supply Co., Seattle, who presented a paper on "The Application and Maintenance of Industrial Trucks in Pulp and Paper Mills"; and, SAM A. SALMONSON, Assistant Superintendent, Soundview Pulp Co., and Third Vice Chairman, Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association.

Outside the camera's range, on the left, ROBERT M. TRUE, General Dyestuff Corp., Portland, and Secretary-treasurer, Pacific Section of TAPPI; and E. G. DREW, Chief Engineer, Hesse-Ersted Iron Works, Portland, and member of the Pacific Section Executive Committee; on the right, HAROLD BIALKOWSKY, Technical Director, Everett Mill, Pulp Division Weyerhaeuser Timber Co., who had charge of arrangements for the Everett Dinner Meeting.

Strang, Soundview Pulp Co., Everett; W. J. Thomas, St. Regis Paper Co., Kraft Pulp Division, Tacoma; William Thorp, Cellulose Products Laboratory, Tacoma.

G. R. Torkelson, Pulp Division Weyerhaeuser Timber Co., Everett; Captain Cecil L. Triplet, U. S. Army (Formerly Hawley Pulp & Paper Co.), Corvallis; R. M. True, General Dyestuff Corporation, Portland; Edward A. Vohs, Todd Seattle Dry Docks, Inc. (Formerly Pulp Division Weyerhaeuser Timber Co.), Seattle; L. H. Wendt, Pulp Division Weyerhaeuser Timber Co., Everett; A. F. Winklesky, Everett Pulp & Paper Co., Everett; Edward P. Wood, Pulp Division Weyerhaeuser Timber Co., Longview; R. E. B. Wood, Pulp Division Weyerhaeuser Timber Co., Everett; A. E. Youngchild, Soundview Pulp Co.

### Fernstrom Active In Fund Raising

● The friends of F. O. Fernstrom, president of Fernstrom Paper Mills of Pomona, missed his genial presence at the annual Sports Carnival and Hi-Jinks of the Paper Mill Mens Club of Southern California. Mr. Fernstrom was unable to attend due to a slight illness. His illness followed extra exertions in the interests of the Wings for Norway campaign, a project to raise funds for the purchase of planes for Free Norwegians to fight the Nazis.

### George McCord Taking Officers Training

● George H. McCord, purchasing agent for the California Oregon Paper Mills division of the Columbia River Paper Mills, at the Los Angeles plant, is now taking officers training at Fort Benning near Columbus, Georgia.

## Naval Officer Praises Camas Mill's War Work

● Lieutenant A. N. Mason, U. S. Navy, in charge of war production for the Navy in the area, praised the efforts of Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, in an address at the Camas, Washington, plant on September 17th. The address followed an official tour of inspection. H. N. Berglund, chief naval inspector, and J. F. MacDonnell, manager of the U. S. employment service, Vancouver, accompanied Lieutenant Mason on his tour through the mill inspecting war production work.

J. A. Hanny, resident manager of the Crown Willamette Paper Company plant, introduced Lieutenant Mason at the noon meeting attended by employees and townspeople. It was pointed out by lieutenant Mason that the local organization was one of many pulp and paper plants throughout the country devoting every possible effort toward the manufacture of vital war materials. He added that this cooperation would ultimately result in an overwhelming victory for the United Nations.

A noon luncheon was served in the Crown Willamette Inn honoring the Navy representatives. F. N. Youngman, vice president, Crown Zellerbach Corporation, expressed the desire of the company to get behind the war effort 100 per cent, assuring the Navy representatives that the thousands of employees of Crown Zellerbach Corporation were of the same opinion, which is indicated by their accomplishments in the tasks assigned. According to Mr. Youngman, a recent survey of Pacific Coast paper mills has revealed that the Camas plant leads all plants in war production.

Mr. MacDonnell commended the Camas mill for its well-planned program for stabilizing men in the industry, for placing men and women in jobs to which they are best suited.

### Fromong Vacations As a Stevedore

● Harry Fromong, statistician, Hawley Pulp and Paper Company, Oregon City, Oregon, vacationed September 14th to 28th, during which time he worked as a stevedore at the Portland docks, lending his all to alleviate the local shortage of help.



GRAYS HARBOR DIVISION of RAYONIER INCORPORATED receives a Minute Man Flag for War Bond purchases through payroll deductions by more than 90% of the employees. The presentation was made September 17th by HERBERT HORROCKS, County Chairman of the War Bond Sales Committee.

As of September 1st, 98% of the Grays Harbor Division employees were buying bonds through payroll deductions. The bond drive is being handled jointly by the two International Brotherhoods, the Credit Union and by the management, and will be continued until at least 10% of the total payroll is being diverted into War Bonds.

Left to right, around the flag, Mr. HORROCKS, J. I. PHILBRICK, President of the International Brotherhood of Pulp & Paper Mill Workers Bond Sale Committee; JOHN GAVARESKE, member of the International Brotherhood of Paper Makers Bond Sale Committee; VINCENT GAGE, Vice President of the Pulp union and a member of the bond committee; STANLEY J. YOUNG, President, and F. E. PEARSON, Treasurer, Employees' Credit Union; and, LYALL TRACY, Resident Manager, Rayonier Incorporated, Grays Harbor Division. JOHN W. BAGWILL, Assistant Resident Manager, appears at the extreme left (hat in hand).

The carload of scrap metal in the background emphasizes another way in which Rayonier's Grays Harbor Division is aiding the War Program.

# A Rapid Method for the Determination of Cellulose Viscosity

by R. S. HATCH\*

**D**URING the past decade the importance of the viscosity determination of cellulose dispersions, both as a control in the manufacture of special types of cellulose and as a tool for measuring the degradation of cellulose, or its degree of polymerization, have become of increasing importance.

The solvent or dispersing medium has been, almost exclusively, a cuprammonium solution of varying concentrations of both copper and ammonia, depending upon the particular method employed.

Numerous suggestions of other dispersing media have been made. Berl<sup>1</sup> as well as Okada and Hayakawa<sup>2</sup> have recommended the conversion of cellulose into its trinitrate by a standard procedure followed by the determination of the viscosity in a suitable solvent. Walker and Woodberry<sup>3</sup> suggest the use of dimethyl dibenzyl ammonium hydroxide, commonly known as Triton F, as a solvent for cellulose. Neither the nitration method nor that employing Triton F have, however, been generally accepted and up until the present time the cuprammonium solvent is still the one most universally used.

Methods for determining the viscosity of dispersions of cellulose in cuprammonium solutions may be divided into three general classifications, two of which are precise methods. The third is a rapid and less accurate method used for control purposes. The precise methods in most general use are the capillary flow method standardized and adopted by TAPPI and the falling ball method standardized and adopted by the cellulose section of the American Chemical Society. In February, 1942, the author, in collaboration with R. N. Hammond and J. J. McNair, published a paper in which a comparison was made between the TAPPI capillary flow method and the American Chemical Society falling ball method and a modification involving the most desirable features of both methods was proposed<sup>4</sup>.

Most of the manufacturers of cellulose derivatives have developed rapid methods for viscosity determination using cuprammonium solutions as dispersing agents. Examples of these methods which have been published are those of K. Fabell<sup>5</sup>; S. N. Prawdin<sup>6</sup>; H. Doering<sup>7</sup>; F. Shuey, W. Klauditz, and P. Winterfield<sup>8</sup>; and E. D. Rich<sup>9</sup>. The Rich method has been widely used and studied in pulp mills on the Pacific Coast and has proven to be a reasonably accurate test for control purposes.

It is well recognized that dispersions of cellulose in cuprammonium solvents are extremely sensitive to degradation by atmospheric oxygen. Consequently, any of the quick methods employing cuprammonium as a solvent must necessarily standardize solution times within extremely narrow limits and must accept a certain

amount of degradation as unavoidable. The care exercised in the American Chemical Society method in removing all the air from the dissolving bulb clearly illustrates the degrading effect of even minute concentrations of oxygen in dispersions of cellulose in cuprammonium solutions. We may, therefore catalog the danger of oxygen contamination as one of the principal drawbacks to the use of cuprammonium solutions for rapid viscosity determination.

A second major objection to the use of cuprammonium solutions is the volatility of strong ammonia solutions, especially since it has been demonstrated by Joyner<sup>10</sup> that changes in ammonia concentration materially affect the viscosities obtained on a given sample.

Minor objections to the use of cuprammonium solutions are the necessity of keeping these solutions refrigerated, the effect of varying amounts of nitrites present in the solution, and the necessity of employing sucrose in varying concentrations to obtain the copper concentrations required.

In the January 15, 1942, issue of Paper Trade Journal, Strauss & Levy<sup>11</sup> have recommended the use of solutions made up of a copper ethylene diamine complex so prepared that two mols of ethylene diamine are present for each mol of copper. This solution is an excellent dispersing medium for cellulose, it is non-volatile, it has excellent keeping qualities, provided it is kept stored under an atmosphere of nitrogen, and it is easily prepared in quantity. Strauss & Levy recommended a half molar solution as the most desirable concentration for cellulose dispersions and in the course of their work have developed a comparatively rapid method in which this solution is used for the determination of the viscosity of cellulose dispersions. The Research Department of the Pulp Division of the Weyerhaeuser Timber Company has made a study of this method over a period of the past eight months in which

thousands of viscosity determinations have been made and a method for the rapid and accurate determination of cellulose viscosity established. We are describing this method in detail with the hope that other laboratories will study and expand the method and offer suggestions for improvement or refinement.

Strauss & Levy normally use a half molar cupriethylene diamine solution. A pulp sample is prepared by shredding and is dissolved in this half molar solution in a tube, allowing about 30 minutes for complete solution to take place. They state that in 30 minutes but very little degradation of the cellulose occurs due to atmospheric oxygen, probably because a relatively small surface is exposed to the atmosphere. We have found in our work, however, that while dispersions of cellulose in cupriethylene diamine are much less affected by atmospheric oxygen than are similar dispersions in cuprammonium solution, there still is enough effect of atmospheric oxygen to cause sufficient degradation to interfere with obtaining good check results. Furthermore, when attempting to dissolve certain types of cellulose in a half molar solution, we have found that gelatinization will occur on the surface of the fiber and prevent rapid and complete solution of the cellulose. To overcome these difficulties, we followed the experience of Rich and others in dissolving cellulose in cuprammonium solution in which two solutions of different concentrations are used.

1. For wetting and uniformly swelling the cellulose, and
2. A stronger solution for completing the dispersion.

The concentration of each of the solutions is so adjusted that when mixed the final concentration of the solvent in copper is half molar. We have found it convenient to adjust the concentration of the weak solution so that its concentration in copper is .167 molar. The strong solution is 1.0 molar. We wet the

"During the past decade," states Mr. Hatch, "the importance of the viscosity determination of cellulose dispersions, both as a control in the manufacture of special types of cellulose and as a tool for measuring the degradation of cellulose, or its degree of polymerization, have become of increasing importance. . . .

"In our search for a quick method of cellulose viscosity determination which could be used for mill control purposes, we believe that the cupriethylene diamine solutions give us a method which may be used not only for mill control but also for precise viscosity determinations, provided sufficient care is exercised in sampling and preparing the cellulose dispersions. . . .

"The total time required to make this quick viscosity determination in duplicate is approximately 40 minutes from slush or sheet pulp to final viscosity."

\*Director of Research, Pulp Division, Weyerhaeuser Timber Co., Longview, Washington. Presented at the dinner meeting held by the Pacific Section of TAPPI in Everett, Washington, October 6, 1942.



sample with the weaker solution, add the correct amount of strong solution and then bring about the dispersion as will be described in detail later.

We next proceeded to investigate the effects of atmospheric oxygen in the dissolving process and discovered that when the mixture of cupriethylene diamine and cellulose were shaken a rapid drop in viscosity occurred due to the presence of atmospheric oxygen in the dissolving vessel. For example:

Samples of the same pulp dissolved in the presence of atmospheric oxygen and dissolved in the presence of nitrogen showed the following differences in viscosity expressed in centipoises:

	Viscosity Centipoises
Dissolved in the presence of air	164.5
Dissolved in the presence of nitrogen	161.2
	184.7
	187.0

When using the American Chemical Society method of viscosity determination, the air in the dissolving vessel is completely displaced with pure nitrogen. The presence of even minute amounts of oxygen affects the final viscosity and it is, therefore, necessary to completely purify either commercial nitrogen or commercial hydrogen for this purpose. Commercial nitrogen contains up to one-half per cent oxygen and must be passed over hot metallic copper to purify it sufficiently for use with the American Chemical Society method. It is necessary also to exhaust the dissolving vessel to a very low pressure and fill with purified nitrogen at least three times to avoid any degrading effects from minute amounts of oxygen. Cupriethylene diamine dispersions are much less sensitive to low oxygen concentration than are cuprammonium dispersions. In preparing our dispersions for the viscosity test, we found that it was necessary to displace only the atmospheric oxygen over the surface of the solution in the dissolving vessel by sweeping out the bulk of the air with a stream of nitrogen then closing the vessel and shaking. Under these conditions no lowering of viscosity was observed over wide variations in time of shaking. The following viscosity determinations on samples of the same pulp shaken for different periods of time show that if we displace the bulk of the air with commercial nitrogen no degradation takes place.

Shaking Time	Viscosity Centipoises
2 minutes	183.0
5 minutes	180.6
10 minutes	182.4

Over long periods of time there is a definite lowering of viscosity even under nitrogen due to an aging effect or to traces of oxygen and, therefore, it is desirable to disperse the cellulose as rapidly as possible after which the viscosity is immediately determined. To illustrate the aging effect, three samples of pulp were aged for one hour, two hours, and four hours. The following table shows the degrading effect of aging:

	1% Con- centra- tion	1.5% Con- centra- tion	2% Con- centra- tion
1 hour aging time	116.23	572.1	2025.3
2 hour aging time	113.62	564.8	
4 hour aging time	110.95	530.2	1930.0

Having established the effect of atmospheric oxygen and the effect of aging, we next proceeded to establish a standard time for completely dispersing the sam-

ple. Numerous experiments with various types of pulp led to our standardizing on three minutes shaking time for concentrations varying from one-half per cent cellulose up to two per cent. This time may vary by a minute or more on the high side but fully three minutes should be allowed to be certain that the cellulose is thoroughly dispersed.

Having described the foundation upon which this test was built, the following is a detailed description of our method in carrying out the test.

### Preparation of the Solvent

Straus & Levy, in their original paper, describe their method of preparing the cupriethylene diamine solvent in sufficient detail for most purposes. At the risk of repetition, we will, however, outline our method in somewhat greater detail for the sake of convenience.

### Materials and Equipment Required

Chemically pure copper sulphate crystals  
Ammonia—28%

20% NaOH solution

Technical grade ethylene diamine approximately 70%

Stock solution bottles, heavy enough to withstand vacuum obtained with water pump and a pressure of 2 lbs. per square inch. These bottles equipped with two hole rubber stoppers carrying inlet and outlet glass tube equipped with short lengths of rubber tubing and pinch clamps. The rubber stoppers are wired into the stock solution bottles.

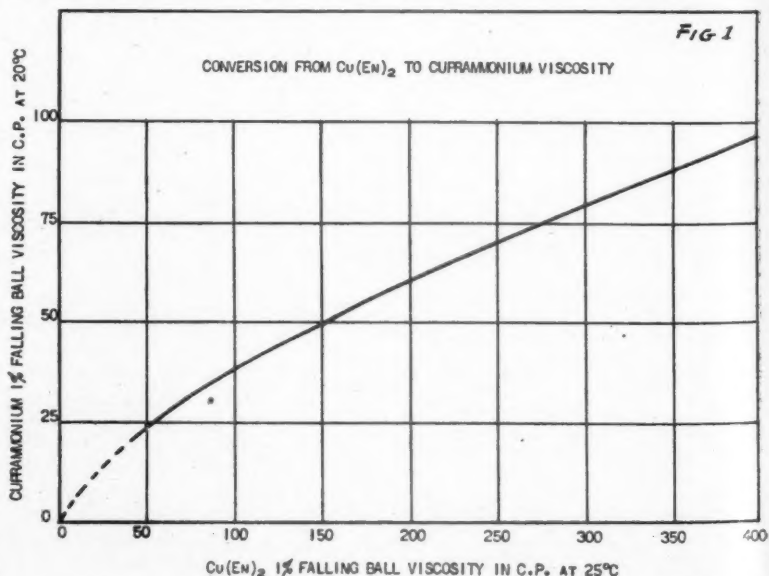
A cylinder of nitrogen with suitable pressure reducing valve which will allow delivery of nitrogen at 2 lbs. pressure.

All future references to cupriethylene diamine solution will be abbreviated to read Cu(En)<sub>2</sub>. The strength of these solutions will be expressed as Cu molarity. Strauss & Levy have determined the composition of this cellulose solvent and caution that there must be no excess of ethylene diamine exceeding two mols of ethylene diamine to one mol of copper. To assure this ratio, the amount of ethylene diamine used in preparing the solution is always insufficient to dissolve all of the copper. Under these conditions, there never is an excess of ethylene diamine exceeding two mols of ethylene dia-

mine per mol of copper. The solubility of cellulose in the Cu(En)<sub>2</sub> solution is at a maximum with this composition and the viscosity is at a minimum. The quantities given in the method described below represent the smallest amount of solution which is convenient to prepare. Any multiple of the quantities given may be used for the preparation of stock solutions.

### Method of Preparation

250 gr. of CuSO<sub>4</sub> · 5H<sub>2</sub>O are dissolved in approximately two liters of hot distilled water. The solution is heated to boiling and sufficient strong NH<sub>4</sub>OH is added with violent agitation to render the solution faintly alkaline to red litmus paper. (This will require about 117 cc. strong NH<sub>4</sub>OH.) The bluish green precipitate of basic copper sulphate is allowed to settle and is washed with hot distilled water by decantation until free from SO<sub>4</sub> ions. This will require 5 or 6 washings. Cold distilled water is then added to the precipitate to bring the volume up to about 1½ liters and to this slurry is added 850 cc. of cold 20% NaOH solution while agitating violently. The light bluish green precipitate changes to a definitely blue precipitate of copper hydroxide which is then washed by decantation until free of both OH and SO<sub>4</sub> ions. All washings should be made with cold distilled water. Experience has shown that when precipitating the original copper sulphate solution with ammonia, it is necessary to have the solution at the boiling point in order to get a precipitate of maximum density which can be rapidly and thoroughly washed by decantation. The copper hydroxide prepared from the original precipitate will also be dense and readily washed free of soluble salts. The washed copper hydroxide is then made into a thick slurry and transferred to a one liter bottle equipped with a rubber stopper carrying two glass tubes, one of which is straight and which extends to within approximately 2 inches of the bottom of the bottle. The other glass tube is a right angle bend which extends just through the rubber stopper, is wired down, and all the air over the slurry in the bottle is removed by exhausting with the vacuum pump and filling with nitrogen at 2



pounds pressure three separate times. After removal of all air a vacuum is drawn on the bottle and 160 cc. of 70% ethylene diamine are introduced, care being taken to allow no air to enter. The reaction between the copper hydroxide and the ethylene diamine evolves considerable heat at this point. The contents of the bottle are thoroughly shaken several times over the course of an hour and the solution is then allowed to stand for 12 to 16 hours. The clear supernatant  $\text{Cu}(\text{En})_2$  solution is then transferred to another one liter bottle equipped the same as the dissolving bottle except that in the storage bottle the straight glass tube extends to the bottom of the bottle. The solution remaining in the dissolving bottle, together with the excess copper hydroxide, is centrifuged and the clear  $\text{Cu}(\text{En})_2$  solution is added to the storage bottle. All air in the storage bottle is replaced by nitrogen by alternately evacuating and flushing with nitrogen. At all times,  $\text{Cu}(\text{En})_2$  solutions must be kept stored under an atmosphere of nitrogen to avoid decomposition.

The solution prepared in this manner should be about 1.3 to 1.5 molar in copper and amount to approximately 600 cc. To determine the molarity, 10 cc. of the stock solution are withdrawn and made up to 100 cc. with distilled water in a volumetric flask. A 25 cc. aliquot is withdrawn and acidified with 50 cc. of 4N  $\text{H}_2\text{SO}_4$ , approximately 3 gr. of KI are added and the solution titrated with N/10 Thio to a starch end point. The cc. of Thio required multiplied by .04 equals the molarity of the  $\text{Cu}(\text{En})_2$  solution.

From the stock solution prepared as above, two solutions are prepared for dissolving the pulp samples. One of these solutions is adjusted to  $1.000 \pm 0.005$  molarity with distilled water and stored under an atmosphere of nitrogen. The second solution is made up from the stock solution and distilled water adjusted to 0.167 molarity and stored under an atmosphere of nitrogen.

### Preparation of Pulp Samples

#### Centrifuge

7 cm. Buechner funnel

Filter paper

2 suction flasks

Moisture teller

Weighing bottles

Desiccator

2 oz. flat medicine bottles with plastic screw caps and rubber gaskets

A sample of the pulp, from a centrifuge pad or a dried sheet, is weighed so as to get from 0.25 to 0.35 g. of O. D. pulp. The sample is dispersed in approximately 1 liter of water and filtered on a 7 cm. Buechner funnel with filter paper. The sample is washed with two 25 cc. portions of acetone, the acetone being saved for recovery by distillation.

The acetone washed pulp is stripped from the filter paper and placed in a "moisture teller" with the heat switch on for exactly two minutes. It is then quickly transferred to a tared weighing bottle and placed in a desiccator until it can be weighed. After the pulp weight is determined, the pulp is transferred to a 2oz. flat medicine bottle with a plastic screw cap and rubber gasket.

The oven dry content of pulp after two minutes drying in the "moisture teller" enables one to calculate the amount of the two reagents necessary for dissolving the pulp to give a 1.0% solution. (The concentration of pulp tested for viscosity is 1.0% except in cases of extremely low or high viscosities when

concentrations of from 0.5% to 2.0% may be used as desired and the 1.0% viscosity calculated from the results obtained.)

Our tests have shown that when using the above equipment and method, the average moisture content will be 99.5% bone dry.

With different equipment and with different pulp the moisture content of the pulp, after it comes from the moisture teller, may vary from the 99.5% bone dry which we have determined for our equipment and pulp. This figure must be determined for each individual mill under actual working conditions.

### Solution of Cellulose Sample

The prepared sample in the 2 oz. bottle is ready to be dissolved. Let us assume this sample weighs 0.2513 g. which multiplied by 0.995 equals 0.2500 g. 0.25 divided by 0.01 equals 25 cc. of 0.500 molar  $\text{Cu}(\text{En})_2$  liquor required.

The amounts of solutions to be added to this sample using 0.167 M  $\text{Cu}(\text{En})_2$  and 1.0 M.  $\text{Cu}(\text{En})_2$  are:  
Solution A 0.167 M  $\text{Cu}(\text{En})_2$  15.0 cc)  
Solution B 1.000 M  $\text{Cu}(\text{En})_2$  10.0 cc)  
= 25 cc. 0.500 M  $\text{Cu}(\text{En})_2$

A table showing the amounts of solution to be added for various amounts of pulp has been calculated. The operator can proceed with the test by reading off the amount of solutions (A) and (B) corresponding to the weight of the pulp taken.

Solution (A) is added to the bottle from a burette being certain the pulp sample is thoroughly wetted. Then solution (B) is added from a second burette, the bottle is swept out with a stream of nitrogen for at least 15 seconds and the cap quickly screwed in place. (The nitrogen is applied to the bottle by means of a 5 mm. glass tube clamped in a vertical position with a rubber tubing connection from the upper end to a nitrogen cylinder with reducing valve which gives approximately 2#/sq. inch pressure. The 2 oz. bottle is swept free of air by raising it to the glass tube so the tube extends just below the neck and slowly tipping the bottle so as to sweep the nitrogen stream over the surface of the liquid at all corners of the bottle.

The sample bottle is then shaken by hand or machine for exactly 3 minutes to accomplish the solution of the cellulose. A convenient machine shaker specification is approximately 200 shaking cycles per minute with a 3 to 4-inch amplitude.

The viscosity solution is then poured into a previously calibrated viscosity tube of 1 cm. diameter 30 cm. long with etched lines 15 cm. apart on the body of the tube.

After determining the viscosity in centipoises, the viscosity as determined by the falling ball method of a 1% cellulose dispersion in cuprammonium solution may be read from the prepared comparison curve (Fig. 1).

### Calibration of Viscosity Tubes

#### Equipment Required

Viscosity tubes

$\frac{1}{16}$ " aluminum balls and plastic tipped forceps

Accurate thermometer reading to 0.01° C.

Constant temperature bath 25.0° C.

Tube holder in bath

Fluorescent light

Standard viscosity oil

Stop watch reading to 0.1 second

The viscosity tubes should be as indicated in the accompanying diagram (Fig.

2). The ground glass stopper may be eliminated for the  $\text{Cu}(\text{En})_2$  quick viscosity test, however, it is desirable to protect the standard viscosity oil from water contamination while reaching constant temperature and the ground glass stoppers are convenient for cellulose cuprammonium viscosity determinations which may be desired for special purposes.

The thermometer, preferably, should have a certified test point at 25.0° C. and the temperature of the bath during calibration should be held as close to this point as possible.

The tubes are closed at the bottom with rubber tubing containing a glass ball plus a pinch clamp. The tubes are then filled with Standard viscosity oil obtained from the U. S. Bureau of Standards. This oil should be between 200 and 300 centipoises at 25° C. The exact value will be indicated by the Bureau of Standards when they ship the oil. This value will be designated by (H) in this discussion. The tubes are closed and placed in the constant temperature bath, held at 25.0° C. for at least an hour before making the determinations. When the tubes have reached constant temperature, a tube is unstoppered and placed in the tube holder which is in the bath.

The tube holder must hold the tubes in a vertical position so the falling ball will drop down the center of the tube and not approach the tube wall or incorrect times of fall will be observed.

Using plastic tipped forceps, a  $\frac{1}{16}$ " aluminum ball is carefully dropped in the center of the tube and the time of fall between the 15 cm. etched lines on the tube is determined to the nearest tenth second. Several determinations are made on each tube or until good checks are obtained. This time will be designated as (t) in this discussion. When the determination is complete the Standard oil is placed in a clean bottle labeled, "Used Standard Viscosity Oil."

The tube factor is calculated as follows:

$H = K t (D-d)$  where

H = The viscosity of Standard oil at 25° C.

K = Tube and ball constant

t = Time of fall through 15 cm. Standard oil at 25° C.

D = The density of the aluminum balls = 2.805

d = The density of the Standard oil

d' = The density of 1%  $\text{Cu}(\text{En})_2$  cellulose solution at 25° C. = 1.052

H' = The viscosity of the unknown  $\text{Cu}(\text{En})_2$  cellulose solution

t' = The time of fall of the aluminum ball in the unknown solution

Then:

$$K = \frac{H}{t (D-d)}$$

$$H' = t' K (D-d') = t' \frac{H (D-d)}{t (D-d)} = t' C$$

$$C = \frac{H (D-d)}{t (D-d)} = \frac{1.753 H}{t (2.805-d)}$$

The following example will illustrate the use of this formula:

H = 266.4 centipoises (Standard oil)

d = 0.874 density of Standard oil

t = 22.4 seconds for tube No. 1

(1.753) (266.4)

C =  $\frac{(22.4) (2.805-0.874)}{(1.753) (266.4)} = 10.797$  constant

for tube No. 1

Then:

H' = 10.797 (t')

Research Cook No. 1362 t' = 20.4

H' = (10.797) (20.4) = 220.3 c. p.

## Measurement of Viscosity In Centipoises

### Equipment Required

Calibrated viscosity tubes  
1/8" aluminum balls  
Viscosity tube with fluorescent light background

Thermometer reading to 0.1° C.  
Plastic tipped forceps for handling aluminum balls

The solution is allowed to stand for exactly 5 minutes, to allow any large bubbles entrapped during shaking to escape. The tube is placed in a vertical position so the standard balls will not approach the sides of the tube as they fall. The time required for a 1/8" aluminum ball to fall between the 15 cm. marks on the tube is measured with a stop watch. The balls may readily be observed by placing a shielded fluorescent light behind the vertical holder for the tubes. More than one ball should be timed to assure an accurate test.

A detailed description of the viscosity tubes and method of illumination for observing the fall of the ball is outlined on page 426 of Technical Ass'n. Papers, Series 25, Volume No. 1, 1942.

The temperature of the viscosity solution is measured to the nearest 0.05° C. immediately after determining the falling ball time. It is very important that the temperature of the room be relatively stable so that the temperature of the solution does not change during the time of dropping the balls and measuring the temperature. The viscosity of the solution is determined by the following equation:

$$\text{Log } C + \text{Log } T + (T-25^\circ)(0.01866) = \text{Log } H$$

C=Tube constant

T=Temperature of solution in ° C.

H=Viscosity at 25° C.

Log tube constant + log seconds fall + (T-25°)(0.01866)

Log viscosity at 25° C.

It will be noted the temperature correction is added above 25° C. and subtracted below 25° C.

The formula given above was worked out in the following manner:

Determinations of viscosity were made at several different temperatures on each of several different samples of pulp which showed wide viscosity variations. These figures were then plotted on semilog paper and formed a series of parallel straight lines from which it was possible to determine the slope of the curve and, therefore, the formula.

The total time required to make this quick viscosity determination in duplicate is approximately 40 minutes from slush or sheet pulp to final viscosity.

The question which naturally will arise is how well the test may be correlated with the capillary flow method of TAPPI, the falling ball method proposed in our paper previously mentioned, and the falling ball method of the Cellulose Division of the American Chemical Society. We already have shown the curve which correlates this method with the falling ball modification of the TAPPI method. In describing the falling ball modification of the TAPPI method, we pointed out that a capillary flow method does not measure the true viscosity of a cellulose dispersion because of the phenomenon of plastic flow, particularly in solutions of high viscosity, and that the falling ball method is a better procedure. There is no doubt that with sufficient parallel tests the two methods can readily be correlated. We have made no attempt to correlate the capillary flow with this new quick method.

As far as the American Chemical Society method is concerned, we have made many parallel tests by the American Chemical Society and by the present quick method. A series of pulps was run by the American Chemical Society method and samples of the same pulp were run by the quick method in our laboratory. Portions of these same samples were submitted to an outside laboratory familiar with the technique of the American Chemical Society method, the appended table gives the results of the parallel tests in seconds.

Sample	A.C.S. Viscosity Determined by Outside Laboratory	A.C.S. Viscosity Determined by Research Department	A.C.S. Viscosity Converted from Quick Method
1	73.0	70.5	70.0
2	66.0	65.8	65
3	86.0	90.2	87

In comparing the viscosity in centipoises as determined by the new method on a 1% dispersion of cellulose with a 1% dispersion of cellulose in cuprammonium solution, prepared according to the TAPPI specifications, it is interesting to note, as was also noted by Strauss & Levy, that the viscosity in centipoises for any given temperature is considerably higher as determined by the new method. While this may lead to some confusion in changing from one method to the other, the fact that cupriethylene diamine solutions show a higher viscosity is a decided advantage because small differences are thus emphasized.

When using the falling ball method to determine viscosity it is convenient to have a solution of such viscosity that the time required for the ball to fall between the two marks on the tube will vary between 5 seconds and 30 seconds. For cellulose samples of very low viscosity, it will be necessary to use solutions of higher concentration than 1%, and for pulps of very high viscosity, it will be desirable to use solutions of lower concentration than 1%.

Farrow and Neale<sup>12</sup> have proposed an equation which is used for the conversion of viscosities from one concentration to another. We have attempted to use this equation over a range of 0.75% to 2.0%. So far, our work indicates that the equation does not hold over such a

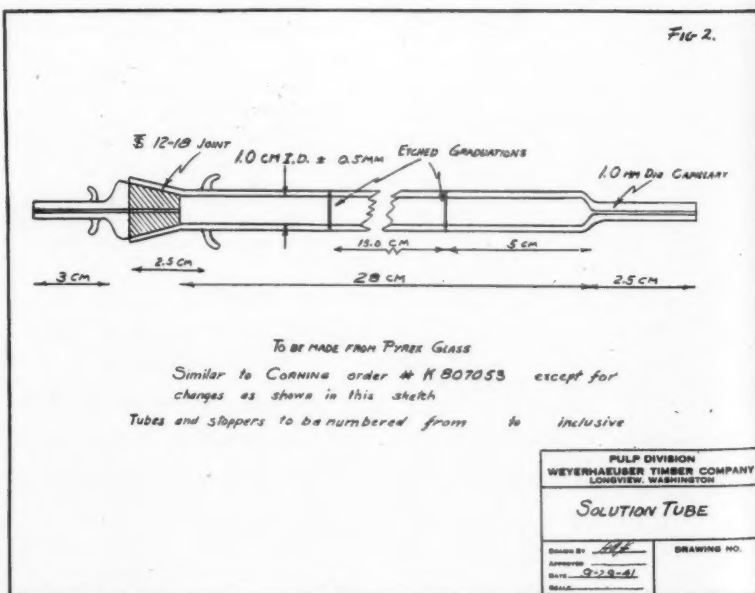
wide range and that constants of different magnitude must be used over about 0.5% concentration range. The change in the magnitude of these constants is small but nevertheless is of sufficient importance to be given consideration when converting from viscosities of less or greater than 1% to those which would be obtained at 1% concentration. Our data at the moment is not sufficiently complete to satisfy us and our final conclusions will have to be published at a later date.

### Conclusion

In our search for a quick method of cellulose viscosity determination which could be used for mill control purposes, we believe that the use of cupriethylene diamine solutions, as previously described, gives us a method which may be used not only for mill control but also for precise viscosity determinations, provided sufficient care is exercised in sampling and preparing the cellulose dispersions. Repeated tests which we have made comparing our quick method with the American Chemical Society method have given us excellent checks. We have avoided the cumbersome and time consuming technique as well as the complicated apparatus set-up required by the American Chemical Society method. Cupriethylene diamine solutions are easily prepared and if stored under an atmosphere of nitrogen may be kept in the laboratory at normal room temperatures with no fear of deterioration over long periods of time.

We have followed the suggestion made by Rich and have used aluminum balls instead of the glass ball used by the American Chemical Society method because the aluminum alloy used for this purpose has a much more constant specific gravity than does glass, can be ground to a high state of precision, and possesses a uniform highly polished surface. In contrast, glass balls, when ground to accurate dimensions, show considerable variation in specific gravity and do not have the smooth surface possessed by the aluminum alloy balls.

The writer wishes to express his appreciation of the pioneering work done by Strauss & Levy in their investigation of cupriethylene diamine as a solvent for





cellulose in the determination of viscosity. He also wishes to acknowledge the value of the careful and painstaking work done by Messrs. R. N. Hammond, William Pittam, and John Doering of the Research Department of the Pulp Division of the Weyerhaeuser Timber Company in obtaining the data upon which this paper is founded.

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<sup>11</sup>F. L. Straus and R. M. Levy, *Paper Trade Journal*, Vol. 114; No. 3:31-34 (Jan. 15, 1942).

<sup>12</sup>F. D. Farrow and S. M. Neale, *Shirley Inst. Memoirs* 3:67-82 (1924).

## Superintendents' Meeting Canceled

Merrill E. Norwood, Chairman of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association, has announced the cancellation of the annual meeting of the Pacific Coast Division, scheduled for Seattle, Washington, December 4th and 5th.

The decision was made by the Executive Committee in the interests of the war effort, and was based upon the rationing of gasoline; the crowded condition of trains and hotels; and the shortage of men in the mills which would undoubtedly keep many of the members from attending.

Present officers will continue to serve until the holding of a meeting is considered feasible.

## Short Circuiting the Rubber Lined Valve Problem

● "Making More With Less" is becoming more and more important to the operators in the pulp and paper industry of the Pacific Coast. Some of the mills have already gone to improvised equipment which would not have been considered in peacetime. In some instances the "substitute materials" have not only reduced the drain of critical materials, but have been found to be as good or better than the conventional equipment.

One pulp and paper mill in Washington has experienced difficulty finding substitute valves for the hose delivering papermakers liquid alum. The problem

results from the fact that rubber lined valves are no longer available to this plant. Here is the way the mill has overcome this difficulty.

Used bronze and steel gate valves are reconditioned when removed. These cannot be used directly in the alum line, either in conjunction with the lead pipe leading from the lead-lined storage tank or in the flow of the liquid alum passing through a rubber hose between the lead pipe and the beaters. These gate valves are adapted for use on the alum line by removing the gate and rounding all the edges so there can be no cutting effect. Then the rubber hose is passed through the opened valve, resulting in a "pinch valve" on the hose, controlling the flow of liquid alum to the beater.



WESTERN WAXED PAPER COMPANY, Division of Crown Zellerbach Corporation, Portland, was presented with a Bulls Eye War Bond Flag on September 18th. 100% of the plant's employees are now buying War Bonds through a more than 10% deduction from the payroll.

## Impressions of the TAPPI Fall Meeting in Boston

PAPER'S part in the war was the main theme of the 1942 Fall Meeting of TAPPI held in Boston, September 29th, 30th and October 1st. The meeting was staged by the New England Section and its committees efficiently handled the unexpectedly large registration of nearly nine hundred.

While each subject on the program drew some interested visitors the outstanding attractions were the "Wartime Packaging" and "Paper Industry in War Sessions." The former was amplified by idea stimulating displays showing the many fiber products already available when war's demands arose and many of the new uses to which pulp, paper and paperboard are now being put to take the place of critical metals. The extent of this development is impressive even to those in daily contact with the industry.

In a talk, "Paper Has Some New Packing Jobs," C. W. Browne, editor of *Modern Packaging*, outlined the problems caused by the war and the opportunities offered paper and board to step in and carry on.

Arthur S. Allen, package designer of New York, spoke on "New Trends on Packaging Design" and illustrated his talk with large size models of new paper and board packages. Many of those shown were special designs for the shipping of war materials. Others represented substitutions for tin for packaging necessary civilian products. Space does not permit enumeration of either the samples shown by Mr. Allen or of the exhibits at the meeting. However, one of the packages shown by Mr. Allen typifies the cleverness of many of the new items. It is an all paperboard 1½ ounce tobacco box, with a hinged lid that catches on a lip when closed to hold it shut as effectively as a tin lid is held by its catch. Among the exhibits of new applications was a Fram oil filter cartridge in which the thin brass leaves had been displaced entirely by ones of paperboard.

Mr. Allen pointed out that the packages he displayed are now in production although few have as yet reached consumers due to large stocks of the original metal containers on hand when the use of tin and steel was curtailed.

What this multitude of new packages will mean in tonnage to the paper and board mills a few months from now cannot be accurately estimated, but they will materially aid many plants to stay in operation and contribute toward the war effort.

One of the interesting angles of the exhibits and of Mr. Allen's display indicative of future trends, was the combination of plastics and paper or paperboard. By combining various resins with fiber the usefulness of each will be greatly enlarged. We have long heard about paper toothpaste tubes. These are now practical as a substitute for lead-tin alloys through impregnation of papers with various resins.

● In this field of combined plastics and paper the technical men of the plastics industry and of the paper industry have a great opportunity. The rapidity with which the plastics industry has developed in recent years has been accelerated by the demands of war. So fast are developments coming that what seems the best plastic for a particular job today may be obsolete next week. The task of matching plastics and fiber products to produce the best and cheapest packages for various purposes, challenges the ingenuity of the technical men.

Long a live subject, moisture vapor resistance has been spotlighted by the needs of the armed forces and of civilians now that tinned containers have been curtailed.

On the subject of accurately testing papers for moisture vapor resistance, J. F. Halladay of the American Coating Mills, Elkhart, Indiana, delivered a paper entitled, "An Engineering Approach to the Solution of Packaging Problems Involving Moisture Vapor Resistance."

The Army's interest in new containers was shown by captain Robert R. Melson, U. S. Quartermaster Corps, who spoke on "Ration Container Problems." Captain Melson emphasized the Quartermaster Corps' continued interest in new packaging ideas and asked the industry's cooperation in attempting to meet new problems as they arose.

J. D. Malcolmson of Robert Gair Company, Inc., spoke on "Folding Carton and Fibreboard Substitutes for Metal Containers." Cellophane's place in meeting wartime packaging

problems was discussed by J. D. Rankin and A. F. Wendler of E. I. duPont de Nemours & Co., Inc., in a paper titled, "Replacement of Metal Containers by Use of Cellulose Sheeting."

"The Use of Urea-Formaldehyde Resins for the Waterproofing of Starch Used in the Production of Solid Fibre and Corrugating Board," was described by Philip B. Taft of The Resinous Products and Chemical Co., Philadelphia.

It would have been most timely to have had more papers on the use of resins in the production of paper and paperboard, but these will have to await future meetings, for, as pointed out above, progress in the plastics industry is proceeding at such a rapid pace much remains to be learned about the best combinations. Undoubtedly the use of resins in combination with cellulose fibers will occupy a very prominent place on future TAPPI programs.

### Paper Industry in War Session

● Under the stress of wartime conditions people are more than ever interested in attempts to foresee the future, even if it is only tomorrow. One of the powerful magnets drawing so many men to the Boston TAPPI meeting was the expected appearance of David P. Winton, chief of the Pulp and Paper Branch, War Production Board, who was to speak, according to the program, on "The Future of the Paper Industry As I See It." As the WPB through its vast power controls the very existence of American industry, this expected unveiling of the WPB's plans for the pulp and paper industry brought well over 500 men to the session.

They were disappointed for Mr. Winton advised TAPPI that he was unable to leave Washington. His telegram said in part,

"In the creation of new products for war use and as substitutes for critical materials the technical man is an important factor. I urge the technicians of the pulp and paper industry to accept the challenge and show what they can do."

Substituting for Mr. Winton, T. Spencer Shore, director, Division of Industry Advisory Committees of the WPB, spoke on "The Over All Picture." Mr. Shore was in the difficult position of delivering a gen-

eral talk as a substitute for the specific information hinted by the title of Mr. Winton's planned address.

His theme: Too many people think this is going to be a short war. We must strain every effort to sacrifice if we are to push forward to a victory over the Axis. Civilian production is being cut off except where it is absolutely essential for the maintenance of the war economy. Our farms, our factories, our transport lines, our manpower will all be mobilized for the single purpose of winning the war.

It is time to face facts realistically, he said. It is no time for the pulp and paper industry or any other industry to attempt to save its hide at the expense of the war effort by trying to re-establish lost markets for products that are not absolutely essential.

He criticized the critics of the War Production Board, saying that while the WPB welcomed constructive criticism, too much of that given was destructive and unjustly held the organization up to ridicule. He placed much emphasis upon the problem of criticism but in the written address gave no specific examples to prove his point.

● Mr. Shore then laid aside his prepared talk and spoke off-the-record, asking that no notes be made of what he said. This second half of his talk was interesting and informative for it was specific. He dealt with several problems of the WPB by citing examples including those involving the destructive criticism mentioned in his earlier remarks.

No good American disagrees with the general statements made in the written half of Mr. Shore's address, but many good Americans feel that we are long past the stage of talking in generalities, that no time should be wasted with them.

In the opinion of a number of people talked to, Mr. Shore's prepared talk was months behind the thinking of most Americans and of the men in the pulp and paper industry in particular. They know what he said by heart and want to move on to the discussion of specific sacrifices that must be made by industries and individuals. General talks today are breeders of the criticism of which Mr. Shore complained.

This criticism is not of Mr. Shore, who was speaking under instructions, but of the WPB policy makers, whoever they may be.

Not being able to follow the logic that 500-odd men could hear Mr. Shore's off-the-record remarks

while the rest of the men in the pulp and paper industry could not read them in print, several men spoke to him afterward. They suggested he attempt to obtain the release for publication of his off-the-record remarks because of their value to the industry, and at the same time criticized the prepared address as outlined above. Mr. Shore said that it would not be possible to secure permission to publish what he had said extemporaneously.

Arthur G. Wakeman, deputy chief of the Pulp and Paper Branch and formerly production manager of the Fox River Paper Company of Appleton, gave an interesting and informative talk on: "The Organization and Personnel of the War Production Board." Mr. Wakeman's remarks dealt mainly with the Pulp and Paper Branch.

● The third talk of the afternoon was by John Strange of the Pulp and Paper Branch. Mr. Strange, formerly of the Institute of Paper Chemistry, is chief of the newly organized War Products Development Section of the Pulp and Paper Branch. This new section will attempt to channel the pulp and paper industry's research toward the rapid development of new products for war use and, too, for essential civilian use. A survey is being made of products now being made for war purposes and now being developed; what various war agencies might be able to obtain from the industry; and, what products under development are necessary to the war effort. The section will serve as a liaison office between the several war agencies and the mills, endeavoring to employ paper and paperboard as substitutes to solve wartime materials problems.

The general reaction was that this is an excellent idea and shows much promise providing the broad experience and the outstanding abilities of the members of the advisory committee are fully utilized (see story re committee membership elsewhere in this issue). The cooperation of the industry is pretty well assured, Mr. Strange said, many mill organizations having pledged themselves to allow the free use of patents and processes for the common cause.

● A number of members remarked privately that the establishment of the War Products Development Section opened up a great opportunity for TAPPI to aid the war effort and the pulp and paper industry,

and that the organization should take a leading part in coordinating and accelerating the industry's research.

The other sessions of the 1942 Fall Meeting, "The Mill Organization in Wartime"; "Engineering and the War"; "The Wood Pulp Industry Wartime Projects"; and the "Water Conservation Session," all contributed their share to a useful meeting.

At the "Mill Organization in Wartime Session," A. Catherine Davies of the Hammermill Paper Company, gave a paper on "Role of the Technical Libraries in the Paper Industry." H. G. Noyes of the Oxford Paper Company spoke on, "Mill Personnel and the War Effort"; and F. H. Frost of the S. D. Warren Company talked on "Technical Departments Meet War Problems."

Five papers were given at the "Engineering and The War Session"; "The Flow Spreader," by S. M. Bratton and F. M. Sanger of the Pusey & Jones Corporation; "Fuel Problems in Wartime," by E. F. Burns, International Paper Company; "Power Teamwork for Victory," by P. W. Swain, Power Magazine; "Laminated Plastics—One Answer to Shortage of Critical Metals," by F. P. Hunsicker, Westinghouse Electric and Mfg. Co.; "Composition Bearing Applications in Industry," by John A. Petho, Continental Diamond Fibre Co. and Frank W. Vogt, Joseph T. Ryerson & Son, Inc.

At the "Wood Pulp Industry Wartime Projects Session," the following papers were presented:

"Grinding of Hardwoods," by E. R. Schafer and J. C. Pew, Forest Products Laboratory; "Ethyl Alcohol from Sulphite Waste Liquor," by F. S. Hanson, Kimberly-Clark Corp; "Pulping Studies on Selected Hybrid Poplars," by M. W. Bray and B. H. Paul, Forest Products Laboratory; "A Study of the pH Factors in the Hypochlorite Bleaching of Wood Pulp, Part II, Two Stage Treatment of Sulphite Pulp," by F. Casciani and G. K. Storin, Niagara Alkali Company; "Some Observations on the Problem of Iron in Bleaching Pulp," by E. L. Keller and F. A. Simonds, Forest Products Laboratory; and, "The Use of Ca in Bleaching Rags," by J. E. Brenann and G. P. Vincent, Mathieson Alkali Works, Inc.

The "Water Conservation Session," heard papers on, "Process Water—New Developments and Conservation Measures," by R. T. Sheen and L. B. Miller, W. H. and



L. D. Betz Co.; "Recent Developments in the Treatment of Water," by Eskel Nordell, Permutit Company; and "Diatoms in Paper Manufacture," by Howard W. Hall, The Dicalite Company.

#### Exposure to Ideas

● One of the benefits of attending industry meetings such as the Fall Meeting of TAPPI at Boston comes from the exposure to ideas of others. In addition to the papers and accompanying group discussions, there are the numerous informal talks on operating problems by groups of two or more.

Today the pooling of ideas is of more importance than ever to the country, to the industry and to individual mills. With the growing need to conserve materials through substitutions and salvage, the advantages of exposing oneself to the ideas of others are greater than ever before.

No organization has a monopoly on ideas.

#### General Impressions

● The pulp and paper industry, and most industries for that matter, through the East and Middle West, have not as yet reached as serious a stage in the manpower problem as have the plants on the West Coast. From talking with a number of men at the TAPPI meeting it became apparent that the Middle West is closer to a real shortage than the Eastern part of the country.

New York has an unemployment problem with the decline in the manufacture of men's clothing. Hotels and apartments still have uniformed doormen and there seems to be a plentiful supply of experienced waiters and waitresses in the restaurants. The Pacific Coast is having to solve its labor shortage problem first, to pioneer the training of older men and of women for jobs never before handled by them.

**Concentration:** Everyone senses that some form of concentration of pulp and paper production is on the way and all are searching for straws in the wind to indicate what form it will take. Without indulging in prophecy, it can be said that when concentration of production comes it will include a transportation angle. The elimination of the cross-hauling of wood pulp (170,000 car-miles in September) has proved so successful from the standpoint of conserving freight car space that it is logical paper will be handled in a similar manner.

It is expected by a number of manufacturers with whom the problem was discussed that when the

order comes it will prevent, for example, a maker of bond paper in New England from shipping to Wisconsin or to the Pacific Coast. Since bond paper is made on the Coast it will have to suffice even though the buyer might prefer a rag content stock. Nor will it be permissible for a board maker in the South to ship to the Coast.

Mills close to centers of war industry, making papers consumed by those plants will naturally be in a preferred position. It would seem logical that as a region the Pacific Coast would be less affected by concentration than almost any other section of the country, considering the problem on both the transportation and the proximity to war plants basis.

In a recent bulletin the American Paper & Pulp Association said: "It is understood that there are three basic proposals under consideration: a horizontal limitation of output; a freezing of production at present or reduced levels; and selective limitation among the various major paper grades. A horizontal reduction, if ordered, might either be a flat immediate reduction of output, or a reduction by a series of steps to relieve the impact of an immediate sharp cut in production."

A deep percentage cut is considered by the industry as almost certain death for many mills. On say four days a week operation, they could not hope to hold their men with big money being paid by war plants.

With the ratio of production to capacity climbing from a low point of 75.8 per cent in July to 82.1 per cent in September and a high of 86.9 per cent for the week ending October 3rd, manufacturers believe it is inevitable that the WPB will put on the brakes.

Some have been of the belief that wood shortages might bring about a natural reduction of operations. On the Coast that has already curtailed pulp production, but maximum production of paper grades was no longer required. The wood situation in the Northern states is not expected to bring about a decline in production until sometime next year. The South, being so dependent upon trucks for its wood supply, faces curtailment on the basis of rubber conservation, although a few Southern mills have uncovered enough horses and wagons to haul a major part of their supply.

**Pulp and Paper Branch of the WPB:** The following attitude was quite general throughout the industry prior to David P. Winton's

resignation as chief of the branch on October 14th. The Pulp and Paper Branch is doing a pretty good job. It contains some fine men and they are trying hard. The work has been improving this year but can be better.

Criticism invariably included these points. Too much time is still required to get a decision on matters of immediate importance. The reason is the same one we have heard over and over again; namely, that good men are given too much responsibility and too little authority. In other words, too few men have authority and they are the bottlenecks. Frequently, speaking now of the WPB in general, they are unfamiliar with the industry problems and must be painstakingly convinced by subordinates who are familiar with the industry problems.

General opinion was that any pulp and paper man who goes to work for the WPB deserves great credit for he is actually offering his health for his country. Responsibility without authority plus the bureaucratic system results in frustration and this, in turn, has brought about ill health in a number of cases.

A wide range of pulp and paper manufacturers were interviewed and all clearly indicate a desire to do everything possible to help win the war. They desire above everything else specific orders as to what they can do to aid the war right away. Much uncertainty exists.

**Machinery manufacturers:** The pulp and paper industry can be very proud of its equipment manufacturers. Almost without exception they have converted to war work. Conversion among those talked to ranges from 90 to 99.7 per cent war work. In a few months all will be over 95 per cent converted to war, the remainder being devoted to necessary replacement parts for the industry's essential mills.

Today's output of the equipment producers ranges the entire list of foundry and machine shop products. From torpedo parts through airplane engine crankshafts to complete ships.

Without making a mill by mill check it seems that the mills on the Pacific Coast are far ahead of the rest of the industry in converting machine shops to war work. The mills on the Pacific Coast tackled this problem as a group while the rest of the country is working on it on an individual plant basis.

**Attitude toward the War:** After talking with business men from all parts of the country at the Boston

TAPPI meeting, one obtains the impression that the attitude toward the war is more uniform than indicated by the newspapers and news magazines. All are impatient at delay, desire to move faster, to be freed of bottlenecks holding up their production for the war, anxious to be told specifically what is expected of them, and last and most important, willing to do everything within the limits of their abilities to win.

As on the Pacific Coast the greatest mental confusion was due to the unequal working of the draft law. Fear was expressed that too many skilled men are being drafted to enable American industry to even hold today's production rate. There is much worrying about the effect of strikes not only among industrialists but also among service men.

One officer in an armored division, just back from five months in Africa, said the news about strikes upset the Americans there more than anything else. He was wondering what was the matter at home. In three days of questioning every civilian he had met he hadn't found a satisfactory answer. It looked to him, he said, after being away for so long, that the only answer was a labor draft.

He isn't alone in coming to that conclusion. Many civilians with whom the subject was discussed on this trip expressed the fear that a labor draft was inevitable, much as they disliked the idea. Too much shifting of labor, too many strikes, and too many examples of skilled men not using their skills for the war effort, all pointed to a need for closer control of manpower in war industries.

### Necessity Again Mothers Invention

● St. Helens Pulp and Paper Company, St. Helens, Oregon, has in the past had a 75-foot steel conveyor chain transporting hog fuel from the hog fuel storage pile to the boiler room and a second conveyor 185 feet long feeding the hog fuel to the boilers. The first of these two chains has become worn and it cannot now be replaced because this type of chain is a critical item. The company has purchased a second hand belt from a grain mill and is now installing it in place of the steel chain conveyor for handling the hog fuel. A whole new conveyor is being built to replace the steel chain conveyor and the steel troughing with the belt conveyor which will be approximately 100 feet long.

The new conveyor is built to allow shortening of the boiler feed conveyor by 75 feet, which, according to S. Strom, head of drafting department, will result in just as good a fuel conveyor system and at the same time save considerable critical materials.

## Puget Sound Elects New Officers

Fred G. Stevenot elected President, succeeding the late Ossian Anderson, Lawson Turcotte, Executive Vice President, Walter DeLong, Vice President\*, William Sealy, Treasurer, Harry Binzer, Secretary, Directors pay tribute to Mr. Anderson.

● At a special meeting of the board of directors of the Puget Sound Pulp & Timber Company in Seattle September 26th Fred G. Stevenot, of San Francisco, was elected to the presidency of the company, succeeding Ossian Anderson, who passed away suddenly September 21st at Vancouver, B. C.

Mr. Stevenot has been a director of the pulp company since 1937, and is chairman of the board of the company's subsidiaries, Canadian Forest Products, Ltd., and Beaver Cove Timber Company, Ltd. He was formerly director of forestry of the State of California, a member of the California railroad commission and a vice president of the Bank of America, and is now a director of several California companies.

The vacancy on the board of directors caused by the death of Mr. Anderson was filled with the election of Lawson Turcotte, who also was elected as executive vice president of the company. Mr. Turcotte has been with the company since its inception in 1926 and has served in various capacities, having been secretary and treasurer of the company since 1934. He also is a director and secretary and treasurer of the company's Canadian subsidiaries.

Walter DeLong, operating manager, was elected to a vice presidency. Mr. DeLong has been with the company since 1929, and is a director and vice president of the company's Canadian subsidiaries.

William Sealy, who has been with the company since 1929 as chief accountant, was elected treasurer, and Harry Binzer, former Bellingham city comptroller, was elected secretary.

Ralph M Roberg is sales manager of the company and Erik Ekholm is general superintendent.

### Resolution Adopted

● At its meeting September 26th the board of directors paid tribute to the memory of Mr. Anderson in the following resolution:

"Whereas, in the death of Ossian

Anderson, the Puget Sound Pulp and Timber Company has lost its esteemed and most able president and the Pacific Northwest has lost one of its foremost citizens, a man of keen and farseeing intellect, a builder of constructive force, and a counselor of great wisdom;

"Now, Therefore: Be It Resolved, That the Board of Directors of Puget Sound Pulp and Timber Company shall and it hereby does note in its records its tribute to the life and worth of Ossian Anderson, and its appreciation of his noble character and the eminent services he has rendered to his country and to humanity, and

"Be It Further Resolved, That a copy of this resolution be tendered to his bereaved family."

\*Since resigned and elected Vice President of the St. Regis Paper Co., on October 15th. See page 25.

### How Much Is A Billion Bucks

● The topic turned to taxes and the national debt, as it habitually does when executives get together, also it reached that inevitable point where someone asked, "how much is a Billion Dollars?"

Present being persons prominent in the paper industry, it was natural to visualize such wealth, or indebtedness, in terms of paper. If possible to stack a billion new one dollar bills, on five point paper, how high would it reach?

Paul Keller, manager of the Stockton plant of Fibreboard Products, Inc., supplied an answer: "Approximately 63 miles high." He said it had been figured out by a paper-minded statistician.

### Joe Krohn Loses Home by Fire

● The home of Joe Krohn, backtender on number five machine, Crown Wilamette Paper Company, Division of Crown Zellerbach Corporation, Camas, Washington, was destroyed by fire on September 27th.

### Barber and Hyde Attend Boston TAPPI Meet

● W. R. Barber, technical director, Crown Zellerbach Corporation, Camas, Washington, left for San Francisco on a business trip during the latter half of September. From there he went to Washington, D. C., and on east, attending the Fall TAPPI meeting in Boston.

J. W. Hyde, central technical department, Camas, attended the TAPPI meeting with Mr. Barber.

## Longview Fibre Awarded Both Bond Flags

● As Archie Laushway and "Red" Willis, engineer and fireman respectively of a Longview Fibre railway engine blew the whistle and rang the bell the U. S. Treasury Department's Bulls Eye and Minute Man flags for War Bond purchases through payroll deductions, were hoisted up flag poles alongside the office building at noon on September 14th.

This impressive ceremony was witnessed by around 500 of the Longview Fibre Company's employees whose patriotic purchasing of War Bonds had exceeded the requirements for each flag. Every employee is buying bonds through pay-

roll deductions amounting to 10.56% of the gross payroll.

Raising the two flags while the whistle blew and the bell rang were E. C. Kenyon, president of Local 153 International Brotherhood of Pulp, Sulphite & Paper Mill Workers and Chas. E. Flanders, president, Local 268, International Brotherhood of Paper Makers. The Minute Man Certificate was presented to vice president and resident manager, R. S. Wertheimer by A. C. Campbell, director of War Bond sales for Southwest Washington.

The crowd joined in opening the program by repeating with Boyd Wickwire, personnel manager, the

Pledge of Allegiance to the Flag. Mr. Wertheimer congratulated the employees for bringing the plant personnel purchases of War Bonds to the 100 per cent and 10 per cent marks in a short drive. He also commended them for their judgment in making the best investment possible—in the present and future security of the United States.

### Morgenthau Sends Telegram

● A telegram was received from Henry Morgenthau, Jr., secretary of the treasury, addressed to the employees of the Longview Fibre Company. Wired Mr. Morgenthau:

"I am glad to know that employees of Longview Fibre Company are taking part in payroll savings plan with allotments for war savings bonds averaging 10.56 per cent of gross payroll. This is an excellent showing. I thank and congratulate you all for this achievement." (Signed) Henry Morgenthau, Jr., Secretary of the Treasury.

### Arvidson Becomes Air Corps Officer

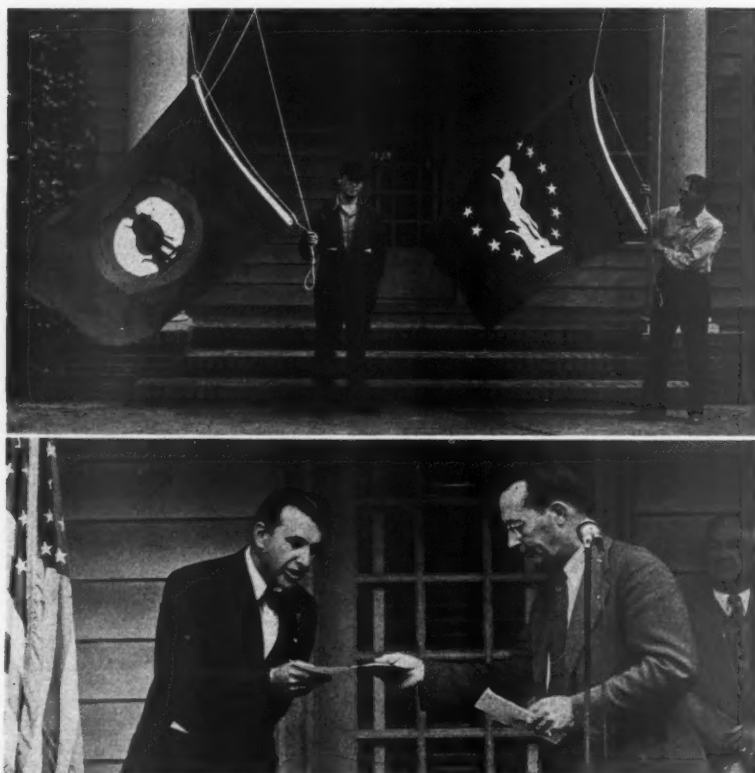
● Jack Arvidson, recently commissioned as second lieutenant in the army air corps, returned to his home in Camas, Washington, the last of September for a short visit before leaving for the Southeastern United States where he is acting as navigation instructor. While at Camas, Mr. Arvidson called at the Crown Willamette Paper Company, Division of Zellerbach Corporation, where he formerly was employed in the bag factory.

### Ingenuity Solves Problem And Saves Materials

● Recently the Longview Mill, Pulp Division Weyerhaeuser Timber Company, Longview, Washington, found it expedient to put a reserve bleach cell in operation in the pulp mill, since the type of pulp manufactured at the present time requires use of this reserve unit. To place the reserve bleach cell in operation required another electrical control cubicle in the second phase control balcony of the bleach plant.

Ordinarily the company would have installed a new cubicle but in this instance the personnel of the electrical department made up a cubicle of obsolescent equipment including an electric closing mechanism for the oil circuit breaker, switches, oil control mechanism and control instruments. The excessive man hours spent reconditioning this equipment are considered as a direct contribution to the war effort since replacements would require just that much critical material which is now needed so many other places.

The electrical department of the Weyerhaeuser plant is rebuilding armatures of controls, pushbuttons and any other re-usable electrical equipment and parts.



**LONGVIEW FIBRE RECEIVES BULLS EYE AND MINUTE MAN FLAGS** for record War Bond sales through payroll deductions on September 14th. The Bulls Eye flag represents gross payroll deductions of 10% or more and the Minute Man flag indicates 90% or more of the employees are participating. The men and women of the Longview Fibre Company exceeded requirements for both flags with 100% participation in the payroll deduction plan and with gross payroll deductions of 10.56%.

**E. C. KENYON**, at the left in the top picture, President of Local 153, International Brotherhood of Pulp, Sulphite & Paper Mill Workers, is preparing to raise the Bulls Eye flag, while **CHAS. E. FLANDERS**, right, President of Local 268, International Brotherhood of Paper Makers, is ready to hoist the Minute Man Flag.

**R. S. WERTHEIMER**, Vice President and Resident Manager, Longview Fibre Company, receives the Minute Man U. S. Treasury Department Certificate from **A. C. CAMPBELL**, Director of War Bond Sales for Southwest Washington. Some Longview Fibre employees cheered the noon hour ceremony.



## British Columbia Mills Not Affected by Power Integration

● British Columbia pulp and paper mills are not being affected by the program initiated in eastern Canada for the purpose of integrating the power requirements of the industry and various forms of war production.

Harold Foley and R. Bell-Irving of Powell River Company and J. H. Young of Pacific Mills have returned from Montreal and Ottawa, where they conferred with the government agencies formed to administer the industry and R. L. Weldon, president of the Canadian Pulp & Paper Association who has been appointed newsprint administrator.

No cut and dried scheme of allocation or arbitrary curtailment in production was evolved at the conference and the understanding is that whatever restrictions may be imposed because of power and other shortages, the B. C. situation is subject to a different set of conditions and will not necessarily be bound by action taken in the east.

The understanding among British Columbia pulp and paper men is that the chief objective of the newsprint administration is not so much to curtail production as to see that the interests of mills placed at a disadvantage temporarily by wartime conditions beyond their control are not unduly jeopardized.

If one mill is forced to cut down its productions because of power shortage, for instance, the administrator will not permit another company to take advantage of its competitor's predicament and seek the business of the unfortunate company's customers. Instead, the administrator will endeavor to pool the business in such a way that the mill whose operations have been restricted will not suffer from its loss. Financial compensation may be made in some cases.

At present Powell River Company is operating at about 80 per cent capacity. Pacific Mills is down to about 65 per cent, chiefly due to temporary power shortage. But all British Columbia mills are at an advantage over eastern plants because they generate power at their own stations and do not compete with other industries.

In the east, for instance, many paper mills are using power that otherwise might be diverted to aluminum and similar war material production, and obviously it is in the best interest of the government to favor the latter.

So far as pulp is concerned, some mills have been given orders for the production of nitrate pulp for munitions and in that event the Canadian Pulp & Paper Association arranges wherever possible to see that the mill's regular customers are taken care of without loss to the company co-operating in war production. British Columbia Pulp & Paper Company, for instance, belongs in this category.

Utilization of Canadian wood pulp as a source of cellulose instead of importing cotton linters for use in the manufacture of nitrocellulose explosives, is saving Canada several millions of dollars annually, according to Canadian Industries, Ltd.

Wood cellulose has been used in Canada for a good many years, in the manufacture of cellophane and rayon, but it is only since the beginning of the war that any move has been made to adapt wood pulp to the manufacture of nitrocellulose.

## Crown Willamette Paper School Begins Tenth Term

● The Crown Willamette Paper School commences its tenth annual session at Camas, Washington, October 20th, when the first year students will be presented with the "History and Romance of the Paper Industry," to be followed in successive weeks by an introduction to the manufacture of pulp and paper and related processes in the Crown Zellerbach Corporation.

This is the largest school of its type and is accredited by the University of Washington and Oregon State College. The school is open to all employees of Crown Zellerbach Corporation without fee. The text book compiled from material developed by the mill supervisors is furnished without charge to each entrant of the paper school. This text is well known throughout the industry and inquiries concerning the school and the text have come from as far away as Russia and India.

The second year class, starting on October 22nd, will be given a detailed description of the Camas mill processes and make inspection trips into the various mill departments to see the actual operations in conjunction with the lectures of the classroom. In the third and fourth

year classes, commencing October 21st, the students are presented lectures by men from industries producing equipment and supplies for the pulp and paper industry. Class work is devoted to informal discussions with the various departmental supervisors.

In addition to lectures given by departmental superintendents, motion pictures of papermaking operations will be shown and a number of outside speakers are already scheduled.

This year's faculty includes dean A. G. Natwick; G. H. Galloway, principal and second year professor; C. A. Enghouse, vice principal; Francis Flynn, first year professor; George Bailey, third year professor; and O. T. Defieux, fourth year professor. Assistant professors are Gus Ostenson, Herman Junge, Fred Sievers, Paul Millard, and Reginald Haight. C. A. Anderson is registrar.

Fred A. Olmsted and R. M. Crosby, formerly members of the faculty, will not be active in the school this year, since Mr. Olmsted is in the San Francisco executive offices of Crown Zellerbach Corporation and Mr. Crosby is in the United States Navy.

The use of cellulose-bearing wood pulps has eliminated the importation of cotton linters from the United States and this effected a considerable saving in exchange while lowering the raw material cost without in any way impairing the quality of the resultant product.

In Quebec, power controller S. J. Symington has ordered several newsprint plants to stagger their hours with a view to conserving power. It is expected that about 50,000 horsepower will be saved by this measure, which will result in weekly shutdown days in the plants of Consolidated, Canadian International, St. Lawrence, Anglo-Canadian, Abitibi, Donohue Bros., and Donnacona.

Power facilities in eastern Canada are being greatly enlarged at present, especially at Shawinigan. If these are installed and in production before expanding aluminum production makes its demands for more power, the newsprint industry even in the east will not suffer drastic curtailment. On the other hand, if the aluminum industry needs more power before then, it will get it at the expense of the paper mills.

## Top Demand for Photographic Paper

● Difficult to estimate is the quantity of photographic paper now being used incidental to the war effort, but dealers

agree present consumption soars to an all-time high.

In San Francisco, a port of embarkation, studios are working at top speed. Service men, on final mainland fling, leave behind a likeness for loved ones. Sweethearts, wives and mothers are storming studios so that their hero might carry away with him a photo of the girl he left behind.

It has been estimated that 95 per cent of civilian population now carries identification cards containing at least a passport photo, incumbent upon all who work in war industries, the waterfront, or sail the waterways for business or pleasure.

## Weyerhaeuser Rearranges Wiring for Quick Blackout

● Now that the pulp and paper mills must be able to blackout in a moment's notice it is of interest to note how the Longview Mill, Pulp Division Weyerhaeuser Timber Company, Longview, Washington, has accomplished one phase without exorbitant expense. Temporary lines were run the full length of the mill to provide control of exterior lighting. This is made up of three circuits controlled by three master switches. The installation was kept on a temporary basis with the wiring remaining outside the buildings as much as possible, thereby avoiding excessive installation costs.

# The Application and Maintenance of Industrial Trucks in Pulp and Paper Mills

by CLYDE F. HOLCOMB\*

The use of industrial trucks in the pulp and paper industry has come to the point where they are now considered a really important production tool, not just a handy gadget around the plant.

Not very many years ago, industrial trucks were of the type used for pulling a string of trailers each trailer carrying its separate load which had to be both loaded and unloaded by hand at its starting point and again when it reached its destination, or by the single load carrying type of machine. Because of the lasting qualities of these machines, many industries expanded until such types were outmoded and when this happened industry practically demanded that some other means of, you might say, portable transportation be developed. When I say "portable transportation" I mean conveyances for the handling of material away from fixed tracks or monorail systems, because while those systems pile and handle material they have to do so in a very defined runway or channel and can only distribute the material along those runways. Industry insisted upon something that could be changed quickly to suit variable conditions and because of this demand industrial trucks were developed to meet individual requirements. This resulted in what might be called specialty work by the industrial truck manufacturers. In other words, each machine had to be built almost from the drafting board for the customer who wanted something to meet his particular requirement.

The pulp and paper mills came in for their share of these new developments. Their engineers submitted their problems to the truck manufacturers and together they devised a machine to fit their particular need. For instance, the machine that can pick up a roll of pulp or paper while it is lying horizontally on the floor and turn it so that it can be stored on end was one of the many peculiar types of trucks needed in your field of material handling.

The handling or transportation of raw materials to the processing machines and removal of semi-finished pulp or paper from the first processes on to the finishing, is one phase for which one particular type of truck is best fitted. The removal of the finished product and the storing of the finished product and the shipping may yet call for an entirely different type of machine. So you can see what the industrial truck manufacturer was up against when he tried to supply a machine that each one thought he had to have. I believe that the industrial truck manufacturers not only met these demands but went beyond in developing machines that would stay on the job with a minimum amount of care and expense. The use of, or possibly I should say the misuse of, certain types of machines on some jobs of material handling cut down the efficiency for which that truck was originally designed.

\*Assistant District Manager, Edison Storage Battery Supply Co. Presented at the dinner meeting held by the Pacific Section of TAPPI in Everett, Washington, October 6, 1942.

And now, inasmuch as new industrial truck equipment for the pulp and paper industry is practically out for the duration, I believe that it is very timely for the mills who operate such equipment to take stock of their machines. To determine whether or not each machine is being used to its fullest advantage, a survey of your material handling truck operation should disclose the amount of idle time on any one machine. Study out the possibilities of some special attachment that could be made to make that machine more productive in another field or operation.

Machines designed for use in the warehouse for stacking material or breaking down warehouse stock are very often used to transport that same stock over a considerable distance. This would be a misapplication of that machine's duty. After the platform or pallet boards have been piled or unpiled by the machine which is designed to do this, the transportation of that material becomes a haulage job. In other words, don't try to use a package handling machine for transportation. At best it can only carry say two platform loads, or pallet board loads and then suppose it has to travel a thousand or two thousand feet before the load arrives at its final destination where the machine sets them down and takes one off the top and sets that one on the floor.

The use of four-wheeled trailers that can make up what we term a trackless train and towed by a small tractor can take six, eight or ten loads over the long haul with much less machinery in motion. Use the package handling machines to load and unload these trailer units at each end of the run. This system is used by the large freight terminal companies for loading freight cars and these trackless trains are loaded with a great many different and varied articles and each consigned to different destinations. The loads are consolidated for each car on one or more trailers. The trailer is then dropped at that particular car. This system can be used in interdepartment work.

Some concerns using large fleets of industrial trucks have a regular transportation manager and his duty is very similar to a traffic manager in a large city or railroad office. He determines the proper number of trucks for each department, routing and classification of machines. He also is in direct charge of all maintenance of the rolling stock. An interesting article appeared in the October issue of Industry and Power, written by Mr. F. L. Sahlmann who is the transportation manager of the General Electric works at Schenectady. Mr. Sahlmann's article stresses the present need for better truck maintenance and goes into some detail on how to avoid breakdowns of the equipment by close inspection and minor repairing that reduce the machine's time out of service to a minimum.

Not only machines but spare parts are becoming increasingly harder to obtain and more attention to proper lubri-

cation of the machines will naturally eliminate a great deal of undue wear. I believe that a system should be worked out where a shopping time for each truck should be allowed so that important bearings and running gear, motors, etc., can be closely checked, wheels aligned and steering gears adjusted. Check the routes over which the trucks travel to see if there are any sharp edges, such as steel frames used in fire doors. These often stand about 1/2 inch higher than the concrete floor and are extremely hard on tires. Make a slight ramp or wedge of wood to fill this in and thus remove the shock from the tires. Depressions, or holes, in concrete can be filled and smoothed over. Nails that work up in wooden planking should be driven down, as all of these create greater tire wear. There is no doubt but what a little more effort and care on the machines will pay big dividends by improved and continuous operation.

## Bill Winn Joins the Navy

● Bill Winn, office employee, Longview Fibre Company, Longview, Washington, joined the United States Navy on September 25th.



## Zaniker Wins Welding Award

● Frank K. Zaniker, welding supervisor, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, West Linn, Oregon, received a check for \$100 October 1st, from The James F. Lincoln Arc Welding Foundation of Cleveland, Ohio, for a paper entitled "Welding of Beater Lifting Tackle."

Mr. Zaniker's award represented 7th place in divisional awards under the heading, Industry Machinery, Processing.

The James F. Lincoln Arc Welding Foundation, Cleveland, O., for 2½ years has been carrying on its second industrial study on arc welding, for which 408 awards totaling \$200,000 were announced October 6th.

Results of the study show the war industries have only begun to gain the benefits of modern arc welding; that further application of the welding process will slash hundreds of millions of dollars off the United Nations' war bill and will cut by 30 per cent the time required to produce ships and planes.

Arc welding will turn out vitally needed naval and military equipment which is more combat-proof and at the same time will save an average of 300 pounds out of every ton of steel going into war production.

Papers were submitted to the Lincoln Foundation study from 46 of the 48 states, by engineers, designers, architects, maintenance men and executives throughout the industrial field.

Altogether, 408 awards were made to 458 recipients, the difference covering joint authorship. One divisional award of \$150 was vacated and two additional awards, one of \$100 and one of \$50, paid with this money to fill out the \$200,000, in accordance with the rules.

Awards embraced 46 divisions of participation, which encompassed the entire industrial field.

The great mass of important new welding data contained in the papers will be made available as soon as possible for the benefit of war industries—in the form of articles in trade publications and other magazines and eventually in book form.

This was done at the conclusion of the last foundation study in 1937-38, and resulted in the dissemination of information which became vital in the nation's war production, utilizing welding.

The book, "Arc Welding in Design, Manufacture and Construction," containing 109 of the outstanding papers from the first program, has become a standard reference guide for application of arc welding to war production.

The Foundation was founded in 1936 in honor of James F. Lincoln, president of the Lincoln Electric Co., Cleveland, by the company's board of directors.

Dr. E. E. Dreese, head of the department of Electrical Engineering at Ohio State University, chairman of the Foundation Jury of Award, is also chairman of the Foundation's board of trustees, composed of W. B. Stewart of McKeehan, Merrick, Arter and Stewart, Cleveland; H. R. Harris, vice president of the Central National Bank, Cleveland; A. F. Davis and Ed C. Powers of Cleveland, secretary and assistant secretary, respectively.

The use of arc welding, as measured by production of arc welding electrodes, has increased over 1900 per cent in the past 10 years.

## Mills Segregating Aircraft Hemlock and Noble Fir

● Effective September 11th to 30th, inclusive, the War Production Board allowed pulp and paper mills to accept camp-run log rafts only with the provision that the aircraft grades of hemlock and all noble fir logs be separated and diverted for the manufacture of aircraft lumber. This order was issued by F. H. Brundage, Western Log and Lumber Administrator, Portland, Oregon.

On September 30th he authorized the pulp and paper mills to continue to accept (until further notice) camp-run rafts of hemlock logs, including logs of aircraft grade or small quantities of any grade of noble fir logs, providing these aircraft logs are continued to be sorted out and set aside. Mr. Brundage also stipulates, "These logs, together with any other grades of hemlock logs which may produce material of aero quality, may be disposed of to the following companies, which, at present, are cutting hemlock and noble fir:

"Bloedel Donovan Lumber Company, Bellingham, Washington; Robertson Manufacturing Company, Everett, Washington; Canyon Lumber Company, Everett, Washington; Walton Lumber Company, Everett, Washington; Columbia River Paper Mills, Vancouver, Washington;

Kingsley Lumber Company, Portland, Oregon; Multnomah Lumber and Box Company, Portland, Oregon; Weyerhaeuser Timber Company, Longview, Washington; Willamette Valley Lumber Company, Dallas, Oregon."

He also cautions, "When disposing of the logs, you should be sure that the particular company concerned has an allocation and that the quantity involved in the particular transaction is covered by their allocation. Changes in this list of mills will be made from time to time."

## Pacific Paperboard Installing Third Machine

● Pacific Paperboard Company, Longview, Washington, is making preparations for the installation of a third paperboard machine at the plant. This machine was formerly in operation at the United Paperboard mill at Benton Falls, Maine; is an 84-inch Whittier board machine trimming 82 inches, has six cylinders and 80 dryers complete with beaters.

The concrete base for the wet end was poured on October 5th in the addition built about one year ago. Until recently this addition has been used for storage purposes although it was built to accommodate the machine which is to be installed shortly.

## Walter De Long Elected Vice President of St. Regis

Resigns as Vice President of the Puget Sound Pulp & Timber Company.

● Roy K. Ferguson, president of the St. Regis Paper Company, New York City, announced on October 15th the election of Walter DeLong as vice president in charge of Pacific Coast operations. Mr. DeLong takes over the work performed since 1936 by the late Ossian Anderson, who was also president of the Puget Sound Pulp & Timber Company. His headquarters will be at the company's bleached kraft pulp mill in Tacoma.

Mr. DeLong has resigned as vice president of the Puget Sound Pulp & Timber Company, to which position he was elected September 26th following Mr. Anderson's death. Mr. DeLong has been associated with the Puget Sound Pulp & Timber Company since 1929 and for the past six years has been in full charge of all operations, the unbleached sulphite pulp mill at Bellingham, the unbleached mill at Anacortes prior to its sale to the Scott Paper Company two years ago, and the company's extensive logging interests. He was a director and a vice president of the Canadian Forest Products Co., Ltd., a

subsidiary of the Puget Sound Pulp & Timber Co.

The operating personnel of the St. Regis Paper Company, Kraft Pulp Division mill at Tacoma under the direction of Niles M. Anderson will remain unchanged.



WALTER DeLONG, Vice President, St. Regis Paper Company



## Paper Mill Men's Club Holds Eighth Hi-Jinks

**I**N tune with the times they called it the Victory Sports Carnival and Hi-Jinks this year. The Paper Mill Men's Club of Southern California, the organization "that knows how" chalked up its eighth successful field day and dinner. The mill men hosts and their wholesale paper and twine distributor guests numbered a round three hundred. Riviera Country Club was again the scene of the event and the date was September 26th. The spirit of goodfellowship, hallmark of all PMMC meetings, prevailed true to tradition. The war, evidenced by the absence of several members already called to the colors, tempered the good time and some talk went the rounds that this might well be the last such party for the duration.

Arthur L. Fox, general chairman this year, received his Army orders and had already reached his post at Miami, Florida, several weeks before the meeting. Vice-chairman R. W. Colwell was called East on urgent business. As a result President Paul R. Raab appointed Dwight Tudor to carry on in the absence of the official chairmen.

There is a knack in planning and executing parties with smooth and pleasant results for all; the Paper Mill Men have year after year proved they have this knack in abundance. This year's Victory hi-jinks goes into the record as another achievement in the club's history, well done in every department.

The men behind the scenes this year whose diligent efforts made the wheels roll were Harry L. Fields as finance chairman, Marvin Vanderheiden, whose work raising the Christmas Party Funds made possible the awarding of more dividends to participants than had ever been the case, J. W. Genuit, whose programs caused much favorable comment for their patriotic colors, for their apt comments on the party and its events, and for their good taste in reflecting the spirit of the party and of the times.

George C. McNamara arranged the entertainment, and a well balanced fare it was. Cantu, the Philippine prestidigitator, delighted all with his nimble tongue as well as his nimble fingers, and gained respect when it was told that he is organizing a Free Philippine Battalion to fight the Japs. An acrobatic team performed amazing feats, the more amazing when it was known that one of the men is totally blind. Singing, dancing and lively stories by the master of ceremonies, George Riley, rounded out an excellent performance.



**PAUL R. RAAB, President, Paper Mill Men's Club of Southern California**

Neil B. Sinclair, 1937 president of the club, came in for a hand from all for his able work, now traditionally his job, handling reservations and invitations. This year more men entered the golf tourney than ever before. Eighty-one turned out. Floyd D. Smith chairmanned this phase of the party and saw it through to its customary success.

For enthusiastic and vigorous play by two evenly balanced nines, the annual softball game was the most outstanding in years. E. J. Fillier was chairman of sports and softball. And no hi-jinks could be complete without a raft of door prizes. F. C. Van Amberg's efforts in this department brought a lot of fun and many a substantial prize to the dinner party. Edward N. Smith, first president of the club, lent his capable assistance as chairman of activities.

No small part of the behind-the-scenes activity is carried on by the club's officers. Paul R. Raab, president, J. Dwight Tudor, vice-president, A. A. Ernst, secretary, G. A. Theim, treasurer, all were "in there pitching" from first to last.

When President Raab took the "mike" as the dinner began, the party was in its fullest stride. President Raab read a telegram from Lieut. Art Fox extending his

best wishes. He then read the names of Leonard W. Hagstrom and L. R. Zack, members who also are in active duty with the military. President Raab then turned the meeting over to Dwight Tudor, who introduced officers and chairmen of club and party.

Floyd D. Smith then announced the golf winners. Low Net Winner with a 76 was this year Gerry Theim, treasurer of the club. His prize was a handsome reversible jacket. Second Low Net of 70 won a toilet kit for H. R. Kernberger. R. T. Close took the Blind Nine Holes with a best of 31 and his prize was four pairs of golf hose. Ben Manker came up with a 77 for Low Gross winner and took a camel hair sweater. Second Low Gross of 81 was tied between W. E. "Bill" Taverner and Marshall Moss. Moss won on the toss and was given a sweater. Ted Corcoran had Best Nine and won a set of leather golf club head covers. The Blind Bogey roll call brought in a large group: Milt Corcoran, R. E. LeGrand, Carl Smith, Walter Huelat, Les Remmers, Newby Green, Harry Fields, A. F. Duval, Russ Attridge, Earl Underwood and on the toss Corcoran, Huelat, Green and Fields came off with a sport shirt apiece. Best Match Play went to Marcus Ray with 2 up. High score was 140, and winner Stan Wallis was given one golf ball.

The eighty-one golfers were Frank Philbrook, A. E. Kern, D. W. Fisher, N. C. Larson, L. F. Edes, Stanley Potter, Earl A. Underwood, Ben Manker, Lester E. Remmers, N. A. Green, Harry Fields, C. Fran Jenkins, Ted Corcoran, Milt Corcoran, W. J. Gray, P. K. Holland, Geo. A. Ward, A. M. Thompson, G. C. Weiman, L. G. Tipple, Merle Graybill, Paul R. Raab, W. A. McBride, S. G. Yount, Marcus Ray, H. Lamme, J. W. Genuit, R. W. Lamboy, J. D. Tudor, A. A. Ernst, G. A. Theim, Bob Tily, Art Sigris, W. E. Taverner, P. R. May, Carl Duke, Bill Weitzman, Don E. Edmond, Robert H. Anderson, Rolla de Hater, Phil E. Ossian, Gary Cann, R. E. Walsh, G. C. Pierson, L. W. Brown, H. R. Kernberger, Charles Spies, Jack Leiser, A. J. Wilson, R. E. LeGrant, Carl Fricke, F. D. Smith, Carl H. Smith, Carl Thomas, Cort Majors, W. Huelat, Donald Ingram, M. M. Paup, R. K. Erlandson, W. H. Charbonneau, Wm. M. Daly, A. F. Duval, J. H. Grady, J. S. Fairchild, S. J. Warner, C. P. Head, Jack Arnold, A. C. Hentschel, M. A. Vanderheiden, R. T. Close, A. J. Nelson, Irvin Damon, Warren Webb, Bill Final, Russ Attridge, Don Plumb, Bud Marmion, R. L. Carr, M.



At the 1942 Hi-Jinks, part of the head table, left to right, FLOYD SMITH, HARRY FIELDS, ANSEL ERNST, CARL DRAPER holds the winning number for the \$500 War Bond; MARVIN VANDERHEIDEN, standing; GERRY THIEM, F. C. VAN AMBERG, NEIL SINCLAIR, JERRY MADIGAN, FRANK GLADDEN, and IRVIN DAMON.

Moss, G. A. Marmion and Albert Applebaum.

Following golf prize awards came the door prize event. Lee Ritchie of San Diego was appointed to draw the lucky numbers and to his own great astonishment and glee he drew his own number first. Including Mr. Ritchie the following were in for prizes: Wm. Horowitz, Bill Taverner, A. J. Wilson, Horace Gibson, W. F. Wood, G. A. Theim, Wm. Entekin, George Skleba, Don Edmonds, A. L. Ziegler, Charles Edes, Stern Altschuler, Charles Head, Taylor Alexander, and Neil Sinclair.

● Earl Fillier was then called on to announce the results of the big softball game. In the first inning he pointed out the score was 10 to 1 in favor of the mill men, then the buyers demonstrated a terrific comeback and by the ninth inning it was 10 to 10 with the final: 11 to 10 in favor of the mill men, one of the first times the mill men have taken the game. Bottles of liquor went to each participant. The mill men's team included Leo Corder, c., Tony Sheehan, p., John Berutti, 1st b., Earl Fillier, 2nd b., George Skleba, 3rd b., Roy Gute, r.f., Melvin Mowrer, c.f., Frank Gladden, i.f., and Lou Levine, s.s. Representing the buyers were Al Simons, c., Bob Boardman, p., Bob Whiting, 1st b., Jerry Madigan, 2nd b., John McLernan, 3rd b., Bill Kettering, i.f., Cal Little, c.f., Bill Townsend, r.f., and Lynn Oviatt, s.s. Umpire was Shorty Chenoweth and Scorer Louis Clark.

Then chairman Tudor turned the meeting over to Marvin Vanderheiden for the big sweepstakes drawing of Christmas Party Funds dividends. A young lady from the group of entertainers was chosen and she drew the \$500 Victory Bond award for Carl Draper. A. J. Wilson came in for the \$100 Victory bond award. Louis Mork was in for a similar award. Ben Graysteen a \$50 Victory Bond award. Then followed forty \$25 Victory Bond awards going to the following: Walter Miller, Lloyd Ramsey (Ramsey was only individual two-time winner getting two numbers called and two bonds), Carter & Spies, H. P. Wissler, Ted Corcoran, C. E. Glass, Ray Nauft, Florence K. Fellows, Green-Young-Remmers, Dorothy Howell, Johnson-Carvel-Murphy, Leo Kerner, Ana Bradford, H. O. Bishop, Fred Kinsley (Ramsey as noted above), C. D. Smith, C. A. Lucking, Wes Barnes, F. McKnight, Acme Paper Co., C. G. Swanberg, Lillian Leaman, Jeanne Moore Weiman, Paul R. Raab, Lila Thompson, Phil Socket, E. R. Debbs, K. C. Holland, W. H. Alcott, A. H. Valentine, W. A. Voltz, Johnson-Carvell-Murphy, C. J. Hulse, Iva Perry, Jack Jacobsen, R. K. Erlandson, Lynn C. Lee, Roy Knauft, Johnson-Carvel-Murphy (this syndicate came in with three lucky numbers).

Following the drawing a wire arrived from Millwood, Wash., from one of the old members, genial Ned Whiting, whose work has taken him for some past months to the Inland Paper plant at Millwood. Ned sent his greetings and expressed his regret to miss the gathering.

Geo. McNamara took over after this with the show that closed the formal part of the party for the evening. Indoor sports and conversation continued thereafter indefinitely.

### Sponsors

The Adhesive Products, Inc., Lloyd I. Ramsey; American Lace Paper Company, Lon A. Kippes; Angelus Paper & Excelsior Products Co., F. C. Van Amberg; Atlantic Gummed Paper Corp., Roy G. Marquis; Bloomer Bros. Company, Johnson, Carvell & Murphy; Boothby Fibre Can Company, Johnson, Carvell & Murphy; Boston Drinking Cup Co., H. O. Bishop; Brown Paper Goods Co. of Calif., Charles E. Digby; California Cotton Mills Co., B. Bahnsen; California-Oregon Paper Mills, Division of Columbia River Paper Mills, Taylor Alexander, J. M. McCord; Capital Envelope Co., Ltd., George McNamara, Horace E. Gibson; Comfort Paper Corporation; G. B. Wheeler, L. C. Harden, M. M. Paup; Consolidated Paper Mfg. Co., Larry Young; Continental Bag Specialties Corp., I. A. Reiss; Crown Willamette Paper Co., Lester E. Remmers, Newby Green, Chester O. Gunther, Wm. R. McHaffie, Harold Swafford.

The Crystal Tissue Company, Edward N. Smith; Cupples Company, Chas. Spies, Emil J. LaVigne; John H. Davis Co., G. C. Pierson; Dixie Vortex Company, Verner Moore, Pete G. Spenser, Melvin L. Mowrer; Dobeckmun Company, Chas. E. Jones, T. E. Bruffy; Everett Pulp & Paper Company, A. A. Ernst.

Fernstrom Paper Mills, Inc., F. O. Fernstrom, J. W. Genuit, J. E. Maurer, E. G. Swanberg, W. H. Chenoweth, M. A. Moss; Fibreboard Products, Inc., O. C. Majors, B. P. Altick, J. D. Tudor; The Flintkote Co., Pioneer and Hollywood Division, Arthur E. Carlson, Mart Larsen, Lorin Miller, Cliff Johnston; Samuel F. Goldman; Graham Paper Company, Frank R. Philbrook, Willard F. J. Taylor; Great Western Cordage, Inc., Chas. H. Allen, Adin B. Wimpey; Harvey Paper Products Company, H. O. Bishop.

Hawley Pulp & Paper Company, W. B. O'Malley; Herz Manufacturing Corp., West Coast Coverage Co.; Inland-Empire Paper Co., S. R. Whiting; International Paper Company, Southern Kraft Division, Frank N. Gladden; Johnson, Carvell & Murphy, Russ Attridge, Garry Carlton, Al Hentschel, Jerry Madigan, Phil Ossian, Clyde Wimer; Kimberly-Clark Corporation, George L. DuBois, C. Francis Jenkins; Lily-Tulip Cup Corporation, Paul R. Raab, Louis Levine, Andrew M. Dean; Longview Fibre Company, A. D. West, B. J. Thacker; Los Angeles Paper Bag Company, G. S. Brenzel; Mill Agents & Distributors, Inc., Carl W. Dukey; Milwaukee Lace Paper Company, G. A. Thiem; Menasha Products Company, W. H. Townsend; Miro Container Company, H. O. Bishop; Morgan Paper Company, A. U. Morse & Company Division, Elmer C. Thomas; Gordon Murphy and Norman A. Buist, Gordon Murphy; Nashua Gummed & Coated Paper Company, Neil B. Sinclair; National Paper Products Sales Co., Harry L. Fields.

Nekoosa-Edwards Paper Co., Marvin Vanderheiden; Northern Paper Mills, Irvin E. Damon; Oregon Pulp & Paper Company, Lewis H. White; Oval Wood Diah Corp., Johnson, Carvell & Murphy.

Pacific Waxed Paper Company, Chas. L. Brouse, Hal D. Cassaday, Anthony P. Sheehan; Paper Container Manufacturing Company, J. M. Sholl Lewis; Paper Manufacturers, Inc., Carl W. Draper; Paper Supply Company, C. C. Bolyard, C. R. Pritchard; Paterson Pacific Parchment Company, Floyd D. Smith; Pomona Paper Products, Inc., Paul R. May;

Rhineland Paper Company, Edward N. Smith; Sales Service Corp., Ltd., Carl W. Dukey; Schermerhorn Bros. Company, R. E. Walsh, J. Berutti, E. J. Fillier, Leo Corder; Sealright Pacific, Ltd., F. R. Schroeder; Silklin Paper Corp., W. H. Charbonneau, W. M. Daly.

St. Helens Pulp & Paper Company, Frank R. Philbrook; Southland Paper Converting Co., Stanley G. Yount, Paul R. Halstead; The Tuttle Press Company, Edward N. Smith; United States Envelope Company, Louis T. Mork, Joseph S. Fairchild, William A. McBride, Albert F. Duval; Western Waxed Paper Company, George C. Wieman, Walter A. Voltz, Arthur L. Fox, Arthur E. Kern.

### Guest Firms

● Acme Paper Company, Glendale, California; Alpha Beta Food Markets, Inc., Vernon, California; American Paper Company, Los Angeles, California; Badger Paper Company, South Gate, California; Bakers & Confectioners Supply Co., Los Angeles, California; J. H. Ball Wholesale Company, Glendale, California; Barnum and Flagg Company, San Bernardino, California; Blake, Moffitt & Towne, Los Angeles, California; Blake, Moffitt & Towne, San Diego, California; Brunswick Drug Company, Los Angeles, California; Buel-Town Company, San Diego, California; California Grocery Company, Los Angeles, California; California Hardware Company, Los Angeles, California; California Tobacco & Supply Company, Long Beach, California; Cann & Company, Los Angeles, California.

Carpenter Paper Company, Los Angeles, California; Cash Wholesale Tobacco Company, Los Angeles, California; Central Paper Company, Glendale, California; Certified Grocers, Los Angeles, California; Channel Paper & Supply Company, Santa Barbara, California; Glen L. Clark Company, Long Beach, California; Juillard-Cockcroft Corporation, Santa Barbara, California; Juillard-Cockcroft Corporation, San Luis Obispo, California; Juillard-Cockcroft Corporation, Ventura, California; Colonial Wholesale Grocery Co., Los Angeles, California; Corcoran Paper Company, Long Beach, California; Easterday Supply Company, Los Angeles, California; Fred H. French Paper Company, Los Angeles, California; Fricke and Peters, Long Beach, California; General Paper Company, Los Angeles, California, Pomona, California.

General Woodenware Corporation, Los Angeles, California; Merle Gravbill, Pomona, California; Guevara Brothers, Los Angeles, California; Haas Baruch & Company, Los Angeles, California; Haas Baruch & Company of Imperial Valley, El Centro, California; Haas Baruch & Company, San Diego, California; E. E. Hoagland Company, Ltd., Long Beach, California; Hollywood Paper Company, Hollywood, California; Ingram Paper Company, Los Angeles, California; Interstate Wholesale Grocery Company, Los Angeles, California; D. F. Joehneck, Santa Barbara, California; Kelly Paper Company, Los Angeles, California; Klauber Wangenheim, Los Angeles, California; Klauber Wangenheim, San Diego, California; LaSalle Paper Company, Los Angeles, California; Alfred M. Lewis Company, Riverside, California; Alfred M. Lewis Company, San Diego, California; Los Angeles Drug Company, Los Angeles, California.

Market Wholesale Grocery Company,

Los Angeles, California; Margolis Brothers, Ltd., Los Angeles, California; Marmion & Company, Long Beach, California; McKesson & Robbins, Inc., Los Angeles, California; Pacific Chemical Company, Los Angeles, California; Pacific Wholesale Grocery Company, Los Angeles, California; Pennington Wholesale Grocery Company, Los Angeles, California; Rand, Halpin & Hibler, Santa Maria, California; W. B. Reynolds, Los Angeles, California; Roberts Public Market, Venice, California; I. Rudin and Company, Los Angeles, California; S. E. Rykoff & Company, Los Angeles, California; Safeway Stores, Los Angeles, California; Safeway Stores, San Diego, California; San Diego Paper Company, San Diego, California; San Diego Products Company, San Diego, California; Sam Sawelson Wholesale Company, Los Angeles, California; W. A. Scheniman Paper Company, El Centro, California.

Sierra Paper Company, Los Angeles, California; Smart and Final Company, Ltd., Wilmington, California; Smart and Final Company, Ltd., Santa Ana, California; Smart and Final Company, Glendale, California; Smart and Final Company, Ltd., San Bernardino, California; Southern California Disinfecting Company, Los Angeles, California; Southern California Wholesale Grocery, Los Angeles, California; Spartan Grocery Company, Los Angeles, California; R. E. Spriggs Company, Los Angeles, California; State Wholesale Grocery Co., Los Angeles, California; Stationers Corporation, Los Angeles, California; Sunshine Specialty Products Company, Los Angeles, California; Stockwell-Binney Company, San Bernardino, California; Taverner & Fricke, Los Angeles, California.

Trade Supply Company, Santa Monica, California; Union Hardware & Metal Co., Los Angeles, California; United States Hardware & Supply Company, Los Angeles, California; United Jewish Retail Grocery Co., Los Angeles, California; United Supply Company, San Diego, California; Upholstery Supply Corporation, Los Angeles, California; John Vanderzyl, Riverside, California; Wellman-Peck, San Diego, California; West Coast Bakers Supply, Los Angeles, California; Western States Supply Company, Los Angeles, California; Wilson Paper Company, Los Angeles, California; Weil

Paper Company, Los Angeles, California; Pacific Pulp & Paper Industry, Los Angeles, California; Zellerbach Paper Co., San Diego, California; Zellerbach Paper Co., Los Angeles, California.

### Zellerbach Employees Form Blood Bank Club

● A new club has been formed in the Zellerbach Paper Company's Los Angeles division, present membership of 37 restricted to employees who regularly contribute to the American Red Cross blood bank.

Reason for the large and increasing membership in this exclusive group, according to W. A. Hokanson, purchasing department manager, is: men like the way Red Cross nurses hold their hands during the ordeal, and women have found it convenient to faint and fall into the arms of handsome medical officers.

### Leslie a Coast Visitor In September

● Don S. Leslie, vice-president of the Hammermill Paper Company, Erie, Pa., was recently on the West Coast and visited the Grays Harbor Pulp & Paper Company at Hoquiam, Wash.

### Farley Gives Up Purchasing Enlists In Army

● Francis A. Farley, purchasing agent for the San Francisco division of the Zellerbach Paper Company, has enlisted in the Army, probably to be commissioned an officer in the Transportation Corps.

### A Champion War Stamp Seller

● Mrs. Elizabeth Smith, switchboard operator, Western Waxed Paper Company, Division of Crown Zellerbach Corporation, Portland, Oregon, sold \$1286 worth of War Savings Stamps between March 18th and the first of October. She invites all callers at the mill to buy stamps and also makes the rounds of the mill during the noon hour of pay day, selling to the fellow employees.

### Wylie Represents Bryant Paper

● C. H. Wylie of San Francisco has been named Pacific Coast representative of the Bryant Paper Company, Kalamazoo, Mich. He succeeds the late Ben Levinson, who died in June following a brief illness.

### Swarberg's Four Sons In Armed Forces

● A proud father is George Swarberg, warehouseman at the Los Angeles division of Zellerbach Paper Company.

He is the father of four sons, all in the armed forces. Two enlisted in the Navy, now serving as machinists, and two enlisted in the Army, now serving in the Medical Battalion, one a private, the other a sergeant.

Warren Swarberg, youngest of the heroic quartet, has seen action in Coral Sea, Midway, Pearl Harbor and Gilbert Islands battles.

### Ed Smith Revealed As Railroad Man

● Few members of the Paper Mill Mens Club of Southern California have realized that their club co-founder and first president has been living a double life. Edward N. Smith it is now learned is not only a paper mill man but also the president of a railroad. This startling revelation came to light at the annual Sports Carnival and Hi-Jinks.

Oddly enough, Mr. Smith is not only president but he is engineer, conductor, dispatcher, trackwalker and roundhouse roustabout of the Orange Belt Line. This pike, which is duly registered, is 300 feet long, double O gauge, and includes Cajon Pass, San Bernardino, Los Angeles and way points with a panorama of the High Sierras in the background. Rolling stock is of the best and includes four Hudson 4-6-4 locomotives, one gas-electric short-line engine, 20 freights and 10 passenger cars. An electric control board with 4 rheostats connected with 72 toggle switches makes an elaborate and precise direction of all trains possible. Mr. Smith, a member of the International Brotherhood of Model Railroaders, states that it is a privately owned road and no stock is for sale.

Some of the Guests and Hosts at the PAPER MILL MEN'S CLUB ANNUAL HI-JINKS, held at the Riviera Country Club, Los Angeles, September 25th. No. 1, EDWARD N. SMITH, past President of the Club, watches the softball game while GUS SWANBERG, Production Manager, Fernstrom Paper Mills, Inc., pretends to dodge the ball. No. 2, GEORGE A. WARD, LEE LAMBOY, MERLE GRAYBILL, and A. M. THOMPSON. No. 3, A. M. THOMPSON, FRANK R. PHILBROOK, TED CORCORAN and MILT CORCORAN.

No. 4, JACK ARNOLD, C. P. HEAD, AL HENTSCHEL and DON INGRAHAM. No. 5, LOUIS CLARK, MARSHALL MOSS, R. L. CARR and W. H. CHENOWETH. No. 6, CARL SMITH, CARL THOMAS, W. W. HUELAT and CORT MAJORS. No. 7, BUD MARMION, RUSS ATTRIDGE, GEORGE MARION and DON PLUMB. No. 8, Front row, BILL KETTERING and BOB WHITING; back row, PETE SPENZER, BILL TOWNSEND, and JOHN McLERNAN. No. 9, BILL CHARBONNEAU, BOB TILY, ART SIGRIST, and BILL DALY.

No. 10, MELVIN MOWRER, PETE SPENZER, and GEORGE SKLEBA. No. 11, PAUL RAAB, DWIGHT TUDOR, STANLEY YOUNT, and BILL McBRIDE. No. 12, FLOYD SMITH, CARL FRICKE, FRANK PHILBROOK, and L. E. LEGRANT. No. 13, SAM WARNER, RALPH ERLANDSON, A. A. ERNST, and JOS FAIRCHILD. No. 14, ROLLA de HATER, A. J. WILSON, JACK LEISER, and L. W. BROWN. No. 15, H. R. KERNBERGER, G. C. PIERSON, R. E. WALSH, and GERRY THEIM. No. 16, DICK CLOSE, BILL FINAL, WARREN WEBB, and IRVIN DAMON. No. 17, A. F. DUVAL, EDWARD N. SMITH, A. P. SHEEHAN, and J. G. GRADY.

No. 18, Paper Mill Men's Ball Team, front row, PETE SPENZER, LOUIS CLARK, MELVIN MOWRER, J. BERUTTI, and EARL FILLIER. Back row, G. S. BRENZEL, FRANK GLADDEN, TONY SHEEHAN, GEORGE SKLEBA, LEO CORDER, LOU LEVINE and ROY J. GUTE. No. 19, MARVIN VANDERHEIDEN, CHAS. SPIES, MERLE PAUP, and DON EDMOND. No. 20, PAUL RAAB, PHILO HOLLAND, C. FRAN JENKINS, and BILL McBRIDE. No. 21, S. R. WHITING and F. C. VAN AMBERG. No. 22, Wholesalers' Ball Team, front row, MEL KETTERING, JERRY MADIGAN, SHORTY CHENOWETH, Umpire, CAL LITTLE; back row, BILL TOWNSEND, BOB BOARDMAN, LYNN OVIATT, BOB WHITING, JOHN McLERNAN and AL SIMONS.



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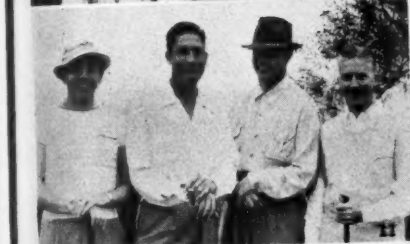
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## Expect Modification of B. C. Hemlock Embargo

● Plans are reported to be in formulation at Washington and Ottawa designed to create a common pool of raw material for pulp and paper mills in the international Pacific Northwest.

If these plans are carried out, the present embargo on export of British Columbia hemlock logs to the United States, applied September 1st, may be modified to some extent, depending on the relative requirements of pulp and paper mills in the Canadian province and on Puget Sound.

The program, still being worked out in detail, is said to be based on the assumption that since Canada and the United States are in the war together and fighting a common enemy no restriction should be placed on the joint use of either country's natural resources when urgently required by individual plants, regardless of whether they are operating in Canada or the United States.

But it is emphasized that the program is aimed at the encouragement of war material production and not merely to facilitate mills catering to normal civilian requirements. If a Washington state mill, for instance, manufacturing munitions wants British Columbia pulpwood for cellulose it will probably get them provided a Canadian mill is not in greater need for a similar purpose. But the Timber Controller's general policy of refusing export permits will continue in force so far as logs for ordinary newsprint and other civilian needs are concerned.

That, at any rate, is the understanding. No official announcement has been made concerning this proposal and none may be made, but there is considerable evidence to show that Canadian and United States war production officials are working closely together regarding pulpwood supply on the west coast and whatever program is adopted will probably be of a flexible nature, capable of overnight revision to meet the rapidly changing conditions.

Meanwhile operators of British Columbia newsprint mills have been frankly advised that war production comes first and that if whole rafts of their logs are needed for aircraft production, cellulose or some other direct war purpose the logs will be taken, even if it results in a shut-down of the mill.

● Behind the Canadian Timber Controller's action in curbing exports of hemlock logs to the United States is the determination to conserve stocks of that timber for aircraft manufacture. Competing demand of British Columbia pulp and paper mills, originally given as the main reason for the export embargo, has evidently been a subordinate factor.

To whip up production of hemlock for aircraft purposes, Aero Timber Products, Ltd., has been given a new assignment in addition to its initial one of speeding the flow of Sitka spruce. This federal government corporation, financed by the Ottawa administration under federal charter and headed by hard-headed loggers and lumbermen such as Robert J. Filberg, J. H. McDonald and Percy Sills, is now organizing a province-wide campaign to get all the top-grade hemlock available, as well as spruce.

British Columbia pulp and paper mills which in the past have been able to pick and choose their pulpwood, will now have to yield priority to Aero Timber Products, whose only consideration is production of lumber for aircraft. It is likely that this company will soon be given a certain measure of control over supplies of Douglas fir, too, as this species has also been found useful in the manufacture of plane parts.

Powell River Company and Pacific Mills, Ltd., the principal newsprint manufacturers on the west coast, have been cooperating for many months with the Timber Controller in holding back highgrade spruce logs from their mills and turning them over to airplane purposes instead will continue to do so, and they will now be required to save their best hemlock logs as well.

Special grades of hemlock logs and lumber have been established. They must be selected from peelable type or No. 1 grade. Other qualifications are that they be not less than 22 inches top diameter and not less than 12 feet long; straight grain so that most of the clear lumber can be produced with a slope of grain not greater than 1 in 15; free of dark bark seams or other serious defects within the clear portion of the log; reasonably regular annular rings, not fewer than eight to the inch, and within the clear portion

of the log; of a character that will produce at least 25 per cent B and better of clear lumber; of such texture or fibre as to be acceptable for aircraft lumber.

Incidentally, the demand for spruce in the Queen Charlotte Islands, chief British Columbia source, has become so insistent that loggers are being offered wages of \$10 a day provided they undertake to work at least 100 days at the camps. This is the highest basic pay ever offered loggers in British Columbia and represents a bonus of at least one-third over the previous standard.

According to assistant timber Controller D. D. Rosenberry in charge of the Vancouver office no written official order has been issued regarding prohibition of hemlock log exports, but he has received instructions from timber controller A. S. Nicholson at Ottawa to the effect that no permits are to be issued in the future. Some shipments are being made, on the basis of individual merits, in connection with contracts arranged prior to Nicholson's instructions, but the general policy is to taper them off, with ultimate 100 per cent prohibition.

More than 150,000,000 feet of hemlock logs were exported from British Columbia last year, nearly all to the pulp and paper mills of Washington state, and exports had been maintained at a similar rate until the Timber Controller began to apply the brakes in September.

Most of the exports have been from crown grant timber over which the Timber Controller and federal government alone have authority. Timber on provincial leases has been controlled by the provincial log export committee headed by Chief Forester C. D. Orchard with representation from the logging and sawmill industries, and this committee has granted few, if any, export permits in recent months.

In wartime, however, the Timber Controller has the power to override the provincial committee and he did so last spring when he ordered the shipment of 10,000,000 feet of hemlock logs from Alberni to a Washington mill in defiance of the provincial minister of lands, Hon. A. Wells Gray, and the provincial committee.



LIGHTER AND BRIGHTER

WOOD PULP REDUCTION WITH

## BEAR BRAND ZINC HYDROSULPHITE

BEAR BRAND Zinc Hydrosulphite, technical, is a fine white powder, easily oxidizable in air. Great Western is supplying this important industrial chemical to the West Coast pulp and paper industry for use as a bleaching agent and for the brightening of ground wood pulp. It is available in 50, 100 and 200 pound drums with a gross weight of 53½, 105 and 210 lbs., respectively. Inquiries concerning specific applications are invited.

SPECIFICATIONS: Zinc Hydrosulphite 80% or better;  
Color, white.



## BEAR BRAND CHEMICALS

Manufactured for the West Coast Paper Industry

Caustic Soda • Chlorine • Muriatic Acid • Sulphur Dioxide • Zinc Hydrosulphite • Dowicide\*

GREAT WESTERN DIVISION • THE DOW CHEMICAL COMPANY  
SAN FRANCISCO, CALIFORNIA

Seattle • Los Angeles  
\*Trade Mark Reg. U. S. Pat. Off.



## Log Shortage Upsets Pulp Allocation

● The bulletin issued by the Pulp and Paper Branch of the WPB on September 28th said in part, "Puget Sound Log Shortage Raises Problems in October Wood Pulp Allocation." Quoting:

"The allocation of wood pulp just completed for the month of October under General Preference Order M-93 of the War Production Board was obliged to take into account reduced production in the Puget Sound area resulting from the pulp log shortage in that area. Restrictions on imports of Canadian logs and heavier diversions of available logs for lumber uses have been offset only in part by the recent directives of the War Manpower Commission requiring woods labor to 'stay put' and by increased prices for Western hemlock pulp logs allowed by the Office of Price Administration under certain conditions. The demands for essential nitrating and dissolving pulps produced in this area are increasing. As a result the estimated production of other types of pulp for October is about 20 per cent below previous peaks, and a more drastic reduction in prospect for later months."

Under the heading, "Replacement of West Coast Pulp from Eastern Sources Found Necessary," the Pulp and Paper Branch had this to say:

"To take cognizance of this reduced pulp supply from the Northwest region, the Pulp and Paper Branch of the War Production Board found it necessary to divert the production of a substantial tonnage of cellophane pulp from a Western to an Eastern producer. In turn, the bleached hardwood sulphite production of the latter had to be withdrawn from the paper industry and the latter satisfied in part from soda pulp and in part from softwood bleached sulphite. It is understood that this substitution can be made by the consumers affected without serious detriment to their operations."

"Although the available tonnage of every grade of wood pulp was not sufficient to meet all orders placed for October shipment, the net result of the October allocation, in which inventories were taken into consideration, was to leave all wood pulp consumers with adequate supplies on the basis of the current volume of business. There is every indication, however, that the Puget Sound situation is a forerunner of similar difficulties in other producing areas."

● "New Savings in Transportation Achieved Through Elimination of Cross-Hauling," included this following statement:

"In the third month of attention to cross-hauling, the policies already applied to bleached sulphite and Northern bleached sulphate were extended to soda pulp and to strong unbleached sulphite. The cross-hauling of 5,000 tons of wood pulp in either direction was eliminated, and a total of about 170,000 car-miles saved or 35 per cent of the original car-miles involved. This was in addition to the voluntary elimination of cross-hauling carried out by some consumers in placing orders for October shipments and the economies achieved through maximum loading of freight cars. Both the domestic and Canadian industry have cooperated thoroughly with the Pulp and Paper Branch of the War Production Board in eliminating cross-hauling as a war measure, and there is every indication that further aggravation of the railroad situation can be met through still

greater transportation economies by the pulp and paper industry."

The above excerpts from the bulletin were passed along to the industry by the American Paper & Pulp Association.

## Winton Resigns From WPB Pulp & Paper Branch

● On October 14th the Associated Press carried the following story:

"David J. Winton, Minneapolis lumberman, resigned yesterday as chief of the Pulp and Paper Branch, War Production Board, thereby disqualifying himself from ruling on curtailments which will affect Puget Sound's paper mill properties in which he owns stock."

"A WPB spokesman explained that the shortage of pulp logs in the Puget Sound area would necessitate the diversion of logs into certain mills, leaving others without supplies and probably bringing about their complete shutdown."

"Winton said he concurred in WPB's general policy of not permitting any official to make decisions affecting any industry in which he had a financial interest."

"Arthur G. Wakeman, deputy chief of the branch, will take over Winton's duties pending the appointment of a successor. Wakeman is a former Appleton, Wisconsin, paper mill executive."

## Fibreboard At Sumner Receives Minute Man Flag

● Fibreboard Products, Inc., of Sumner, Washington, received the coveted Minute Man Flag on August 19th, signifying that more than 90 per cent of the plant's employees were buying War Bonds regularly through payroll deductions.

The Sumner plant's labor-management bond committee reported that 99 per cent of the regular employees were buying bonds through payroll deductions.

## Paper Milk Bottles Gain in Los Angeles

● Just about three years ago, little, if any, milk was sold in paper bottles in Los Angeles, says the Holstein-Friesian Association News. Now the California Department of Agriculture releases a report showing wholesale and retail sales of milk in Los Angeles during December, 1941, as contrasted against the same period in 1940.

Phenomenal sales increases for milk in paper over glass, and wholesale volume over retail sales was shown in this report. Out of an average of 245,732 quarts of milk sold daily at wholesale, only 68,000 were in glass, while the balance was in quart paper containers.

The sale of milk in half-gallon paper containers increased during December, 1941, as compared with the similar period of previous years, 329.76 per cent. The fast growing popularity of buying milk at the corner grocery store is demonstrated in Los Angeles County where daily average volume of milk sold wholesale totaled 118,778 gallons, while retail sales ran a poor second with only 67,919 gallons.

At retail in Los Angeles County during December, 1941, as compared with December, 1940, milk in paper quarts made the astounding gain of 414.81 per cent; the new one-third quart paper containers gained 128.57 per cent; one-half pints, 58.62 per cent, and half-gallon paper containers, 107.34 per cent.

## Paper Products Distributors Under Licensing Control

● Uniform licensing control over all distributors of wood pulp, newsprint, kraft paper and other paper products was announced September 8th by the Office of Price Administration through the San Francisco regional office.

Supplementary order No. 19, effective September 24, 1942, automatically licenses all distributors of paper and paper products for which ceiling prices are established by any of the following maximum price regulations: No. 114, wood pulp; No. 130, standard newsprint; No. 140, sanitary napkins; No. 182, kraft wrapping and kraft bag papers.

The order, part of OPA's program to bring sellers of related commodities within the provisions of a uniform licensing regulation, makes an OPA license a required condition for resale of any of the paper products covered by these regulations. One of the provisions of the order permits a court to suspend the license for violation of a price regulation.

Until September 8th, some of the distributors of these paper products who did not meet the definition of "wholesalers" in the general maximum price regulation were not subject to any licensing control. This action broadens the definition of distributor so that it includes manufacturer's agents, warehouses, importers, exporters, jobbers, merchants, brokers and converters and other resellers, and brings all of them under a uniform licensing regulation.

Distributors of converted and industrial papers and paper products, and of folding and set-up boxes remain under the licensing provisions of the general maximum price regulation.

## Canada Tightens Paper Controls

● On October 14th the Canadian government ordered nine newsprint mills in Quebec to start curtailment of production, in order that 50,000 electrical horsepower and an unspecified number of workers might be diverted to war industries.

This curtailment is in addition to readjustments already made by a number of Quebec mills, whereby each mill is shutting down one day out of seven on a staggered system, rather than all on Sunday, so as to spread the power load more evenly.

The staggered shutdown system has saved an estimated 40,000 horsepower, and with the October 14th curtailment, will mean a total of 90,000 horsepower diverted from newsprint mills to war industries.

## Box Makers Warned To Curtail Stitching Wire

● Manufacturers of folding and set-up paper boxes were warned on September 14th by the Containers Branch of the WPB that preference ratings for steel stitching wire in packages will not be granted except for the most essential uses.

Franklin R. Kelly, acting chief of the Folding and Set-Up Box Section, urged manufacturers to eliminate metal stitching wire wherever possible. He pointed out that glues and paper corner-locks in many cases can be effectively substituted for the metal stitching wire. The wire is normally used as a heavy metal staple in light weight paperboard boxes.

## War jobs helped by **HOOKER CHEMICALS**



# What, no paper shortage?

Newest reports indicate that for the present, at least, the threatened and predicted paper shortage has been avoided. Leave it to the pulp and paper industry to meet emergencies—especially when the welfare of the Nation is at stake.

## **HOOKER CHEMICALS**

helped—by promoting efficient operation and process control through quality and uniformity.

HOOKER helped, too, by means of its technical service staff always available to help solve problems in paper chemistry.



### Bruce Zumwalt Dies In Oregon

● W. B. Zumwalt, a pioneer paper mill superintendent on the Pacific Coast, died September 13th at his home just outside of Portland, Oregon. Mr. Zumwalt was 79 years old.

Mr. Zumwalt, who retired in 1934, was active in the paper industry on the Pacific Coast for many years. He was general superintendent of the Powell River Company's large mill at Powell River, B. C., at the time of his retirement. He was born near Dallas, Oregon, January 28, 1863, the son of Rev. C. P. and Irene Goodrich Zumwalt, who crossed the plains to Oregon in 1845.

In March, 1889, Mr. Zumwalt was a member of a crew which installed the first power line between Portland and Oregon City. He worked as a millwright on the construction of the Willamette Pulp & Paper Company's mill and remained for many years. Later he became construction foreman for the Crown Columbia Paper Company, working on the construction of the mills at Camas, Washington, and Oregon City, Oregon.

He accepted the position of foreman with the Hawley Pulp & Paper Company in 1911, but in 1912 moved to Powell River. As superintendent there Mr. Zumwalt was instrumental in building the mill to its present size and importance in the newsprint industry.

Survivors include the widow, Mary Wells Zumwalt; a daughter, Mrs. Roy D. Armstrong; a son, Edwin B. Zumwalt; three grandchildren, one great-grandchild, one sister and two brothers.

### James Anderson Dies At West Linn

● James S. Anderson, assistant boss machine tender, Crown Willamette Paper Company, West Linn, Oregon, died at his home in Oregon City, September 22nd at the age of 66 years. Mr. Anderson came to West Linn from Kalamazoo, Michigan, in 1918. While in the Lake States he worked for the Monarch Paper Company.

He is survived by his wife, son Stuart with the Derwent Valley Paper Mills, Tasmania, and a daughter of Portland.

### Three Coast Men On Revised Pulpwood Committee

● On September 21st the WPB announced the revised membership of the Pulpwood Industry Committee, Pulp and Paper Branch, as follows:

William T. Brust, Hammermill Paper Co., Erie, Pa.; R. L. Caldwell, Rhinelander Paper Co., Rhinelander, Wisc.; William D. Comins, West Virginia Pulp & Paper Co., New York; A. G. Curtiss, Gaylord Container Corp., Bogalusa, La.; William Hilton, Great Northern Paper Co., Bangor, Maine; Stanton W. Mead, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wisc.; James B. Nash, Nekoosa-Edwards Paper Co., Port Edwards, Wisc.; K. A. Swenning, Brown Company, Berlin, N. H.

Walter DeLong, St. Regis Paper Co., Kraft Pulp Division, Tacoma, Wash.; D. S. Denman, Crown Zellerbach Corp., Seattle, Wash.; Thomas Farwell, Ryegate Paper Co., E. Ryegate, Vermont; C. E. Wilds, The Brown Paper Mill Co., Inc., Monroe, La.; Irving T. Rau, St. Helens Pulp & Paper Co., St. Helens, Ore.; C. E. Smith, Champion Paper & Fibre Co., Canton, N. C.; and A. H. Stier, Container Corp. of America, Fernandina, Florida.

David Graham of the Pulp and Paper Branch is government presiding officer for the committee.

### Simonds Saw Pioneer Dies in Portland

● Albert E. Brownhill, who had been employed by the Simonds Saw & Steel Company for the past forty years, died in Portland recently while attending a Bible class.

Mr. Brownhill was superintendent of the Simonds' shop in Portland and was well known to the pulp and paper industry in the Pacific Northwest. He joined the Simonds' organization at Fitchburg, Mass., forty years ago. Ten years later he was transferred to Portland where he had since lived.

He was prominent in church activities, was a Mason and an Oddfellow. His widow, three sons and two daughters survive him. Mr. Brownhill was 55 years of age at the time of his death.

### Order Standardizes Toilet Tissues

● An order designed to standardize toilet tissue manufacture was issued September 14th by the Pulp and Paper Branch of the War Production Board.

Schedule VI to Limitation Order L-120, issued on the above date, standardizes and simplifies the manufacture of roll toilet tissue and provides that toilet rolls be compressed in order to save shipping space and container board. It embodies the following conservation measures:

1. Reduction of toilet tissue to 14 pounds basis weight. Formerly tissue ran up to 18 pounds. This will bring about estimated savings of 20,000 tons a year.

2. Elimination from manufacture of all rolls less than 650 sheet count. This will reduce the number of roll counts from approximately 25 to a total of 7, will result in a considerable saving in "Down Time" on paper-making equipment, and will also reduce carrying stocks to the minimum.

3. Elimination of inside carton packing and individual wrapping in multiple roll units. This will accomplish an appreciable saving in labor. The annual reduction in paperboard and paper will amount to about 1,800 tons.

4. The winding of toilet rolls as tightly as equipment will permit, collapsing the roll, and designing cases so as to load cars to visible capacity. This will reduce the total number of cars loaded by at least 20 per cent, or approximately 5,000 cars per year, and the quantity of shipping cases by approximately 15 per cent. The increase in the capacity will save an estimated 6,000 tons of paperboard a year.

The toilet tissue industry consists of 78 manufacturers and converters; in 1941, it produced 327,513 short tons with an estimated value of fifty million dollars. It ships about 25,000 carloads a year.

### Joe K. Hays Visits In Portland

● Joe K. Hays, manager of the Columbia River Paper Company of Florida, Tampa, Florida, Division of the Columbia River Paper Mills of Vancouver, Washington, was a recent visitor at the mill.

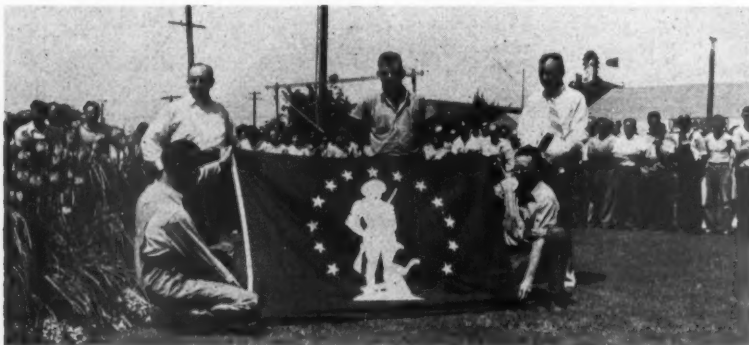
The Tampa, Florida, plant converts tissue manufactured at Vancouver, Washington, into citrus wraps.

### Ken Chapman Receives Navy Promotion

● O. Kenneth Chapman of Everett, Washington, was recently promoted to a full lieutenant in the Navy. Lieutenant Chapman, a Naval Reserve officer, was called from his work as chief chemist of the Everett Mill, Pulp Division Weyerhaeuser Timber Co., in March, 1941, to go on active duty as a lieutenant (j.g.).

### Fred Pape On Duty With Air Corps

Frederic M. Pape, Northwest representative of Wilson & George Meyer of San Francisco, distributors for the American Potash & Chemical Co., was called to active duty July 1st as a second lieutenant in the infantry reserve, U. S. Army. Lieutenant Pape was transferred to the Air Corps and is now serving at the Army air base at Ephrata, Washington. He is attached to the 972nd Guard Squadron as assistant provost marshal.



Unfurled with appropriate ceremonies, a Minute Man flag now proudly flies under Old Glory at the Stockton plant of Fibreboard Products, Inc.

This U. S. Treasury Department award indicates that at least 90% of the 680 plant employees have ordered payroll deductions for the purchase of War Bonds. Leaders in the bond campaign, determined to boost the total to 100%, are DAN COLLINS, ED HIGGINS, GEORGE RHOADES, BUD SUNDAY, ART GASKELL, ED FAUNCE, and a crew of active volunteers.

PAUL H. KELLER, Plant Manager of Stockton, stands at the right of the flag.



# Trade Talk



of Those Who Sell Paper in the Western States

## Army Requisitions Zellerbach Los Angeles Building

● Probable loss of use of its fine new building for the duration is faced by the Los Angeles division of Zellerbach Paper Company.

The building has been requisitioned by the Army and negotiations now are under way toward working out an amicable agreement. Many problems are involved in addition to finding suitable temporary quarters, moving a huge tonnage of paper stocks and appliances, not least among which are searching for telephone switchboards and equipment and similar essential facilities not now available on the open market.

With negotiations pending, the company is dispatching to customers the following notice:

"YOU MAY HAVE HEARD . . . that the United States Army has requested the use of our building. Naturally, we are cooperating. Should final arrangements bring about any changes we will let you know. In the meantime, regular service continues from our present location, 3000 East 12th Street, Telephone Angelus 5252. Your continued patronage will be appreciated. Both now and in the future adequate provisions will be made to serve you well."

Completed in January, 1936, the Los Angeles division offices and warehouse is one of the largest and most modernly equipped structures of its kind on the Pacific Coast.

Eager to extend every possible cooperation to the war effort, officials of Zellerbach Paper Company admittedly are hard put to find suitable substitute quarters and adequate equipment to carry on their vast volume of business in this essential industry.

## Paper Men By Day Cops By Night

● Papermen by day, "cops" by night are Jack Connolly, salesman, and Larry Wright, truck driver, for Zellerbach Paper Company, San Francisco. They have been sworn in as police sergeants in the Auxiliary Police Department following five weeks of intensive training.

Each is in charge of a corps of 21 men to cooperate in regular police work in event of war emergency. Other "Z" auxiliary police include Robert Ross, Farrell McCollum and Warren Peach.

## Commercial Adds New Cover Paper Line

● Addition of a new line to an already extensive stock is announced by Marcus Alter, manager, Commercial Paper Company, San Francisco. His company has been named Northern California distributor of leatherright cover, product of Wheelwright Papers, Inc., Leominster, Mass. A complete line is to be carried in the San Francisco warehouse.

## Bonestell Gets First Ducks of Season

● Bang! Bang! No, it wasn't a Jap invasion which awakened residents in the vicinity of Willows, Calif., in the early dawn of Oct. 15. It was H. S. Bonestell, Jr., president of Bonestell & Company, San Francisco, indulging in his favorite hobby . . . bagging a brace of ducks on the opening day of the season.

Sharing shooting at their club with three colleagues, Mr. Bonestell ever is in his favorite blind long before daybreak on opening day. Admits it would require ten priorities and a Presidential order to dislodge until the bag limit has been reached.

## O'Connell Tries Topping Sugar Beets

● J. L. O'Connell, manager of the Oakland division, Blake, Moffitt & Towne, is a man of many talents, a fact which came to light in his cooperation with the current war effort. If friends find him a bit stooped, unable to straighten up, it's all because of a patriotic effort, a recent Sunday spent topping sugar beets in a field near Alvarado. He was joined in the task by members of the Oakland Rotary, Kiwanis and Lions clubs, relieving the farm labor shortage. Soon as he recovers his equilibrium Mr. O'Connell is planning to spend future weekends in a cannery, helping to save the tomato crop.

## Ken Ross In the Army

● Ken Ross who has been with Crown Willamette in Omaha, Neb., for the past few years, was called into service with the Army. Following receipt of his orders he was found to be suffering with an illness which has put him on the inactive list for a period. It is expected he will recover shortly and again be on active duty.

## Informant Has Snappy Covers

● Attractive covers are a habit with "The Informant," monthly house organ of Zellerbach Paper Company. In the October issue, Glory M. Palm, advertising department, largely responsible for the excellence of the publication, lends 100 per cent cooperation to the war effort.

On the cover is reproduced the official poster of the San Francisco War Chest Drive, a painting of Lonnie Bee. The second page lists opening dates for War Chest and Community Chest drives in all cities in which the Zellerbach Paper Company maintains divisions.

"The Informant" also reminds readers that Christmas is just around the corner, listing gift suggestions, mailing instructions, and similar timely information.

## Crown Sales Executive Now Air Corps Captain

● There were snappy salutes aplenty when "Charlie" Davis, until recently in charge of Northern California sales for Crown Willamette Paper Company division of Crown Zellerbach Corporation, bid adieu to fellow workers, donned his new uniform and became Captain Charles Davis, U. S. Army Air Corps.

Army life is not new to Captain Davis. He served with distinction in France in World War I with the rank of warrant officer as aide to General William H. Johnston. His present assignment is Combat Intelligence Officer in the Army Air Forces.

When the Armistice was signed he went directly to Crown Willamette, served continuously for 23 years, and has been stationed in Los Angeles, Portland, New York and San Francisco.

Fellow employees, headed by executives, honored Captain Davis at a surprise luncheon at the Commercial Club, San Francisco, at which high tribute was paid the officer. Among company officials in attendance were R. A. McDonald, vice-president; D. J. Galen, secretary; G. J. Ticoulat, manager of sales; Albert Bankus, vice-president, and R. O. Young, assistant vice-president.

All took turns in eloquently expressing good wishes and assuring Captain Davis that he will be missed while on his new assignment.



CAPTAIN CHARLES DAVIS,  
U. S. Army Air Corps

### Jeff Smith Serving As San Francisco Gas Officer

● Gas warfare has been ruled out, but rules and regulations are an unknown quantity with unscrupulous enemies in today's conflict.

San Francisco, frequently threatened as object of first attack, has been made ready for almost any eventuality, including gas warfare.

And, Civilian Defense was fortunate in finding available and naming to the post of Chief Gas Officer a man whose training and experience eminently qualifies him to serve in this important capacity.

He is J. F. Smith, Pacific Coast sales manager, Great Western Division Dow

Chemical Company, whose background includes long and distinguished overseas service in World War I. He served as a Captain in the Chemical Warfare Service.

Captain Smith's assignment in Civilian Defense is one of recognized importance. How efficiently his organization has been set up with neighborhood decontamination rooms for gas victims, neighborhood hospitals for emergency service, and the training of a vast volunteer personnel to perform this service is a matter of record, but not for publication at this time.

A vast army of volunteers has been recruited, trained to high efficiency, and is prepared to swing into immediate action should occasion necessitate.

### Powell River On War Work

● Powell River Company, British Columbia's major newsprint producer, is not only producing large quantities of sulphite pulp for the manufacture of war supplies; it has made its machine shops available for the manufacture of lubricators to be used on corvettes of the Canadian navy.

The present contract is a modest one and a sort of trial order, but it is expected to be the forerunner of other government business. An additional night shift may soon be operating on special orders of this kind, far removed from the pulp and paper business but of vital importance to Canada in wartime.

### Foss Lewis Attends Simonds Sales Meeting

● Foss Lewis, Northwest manager, Simond Saw and Steel Company, Portland, Oregon, left September 25th by train for Fitchburg, Massachusetts, where the head offices of the company are located. On the way back he intends stopping at the Chicago branch office, then going to Philadelphia to stop off at the Abrasive Company plant, before continuing to New York, Boston and Fitchburg. He intends attending the Fall Meeting of TAPPI while in Boston, and returned to the Northwest about October 17.

### Walter Dresser Dies In Oakland

● Walter W. Dresser, 64, sales representative of Crown Zellerbach Corporation and predecessor companies for more than twenty years, passed away at his home in Oakland, California, on September 23, 1942. Following Masonic funeral services at the Little Chapel of the Flowers in Berkeley, burial was in Sunset cemetery at Berkeley.

Mr. Dresser was born in Sherbrooke, Quebec, on October 5, 1878 and following his grade and high school educations, studied French in special language schools at Montreal, Quebec, and Hartford, Connecticut.

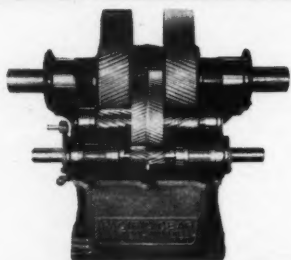
Mr. Dresser then had varied experiences. He was two years on a gold claim in the Yukon, was in business at Vancouver, B. C., and Seattle, and during the first world war was with the labor relations board.

He was married to Grace A. Hastings at Vancouver, B. C., on December 31, 1914. Miss Hastings was a concert violinist. Mrs. Dresser survives him, living at Oakland, California.

Mr. Dresser joined the Western Waxed Paper Company forces more than twenty years ago at North Portland, Oregon, being sales manager of this plant for many years. When the Oakland plant was opened he was transferred to the Oakland bay territory. Several years ago he was transferred to headquarters of the Crown Zellerbach Corporation in San Francisco and from this office directed promotion of several new specialty items and continued to contact many of the large accounts with which he had long acquaintance.

He was a life member of Prince Albert Blue Lodge of the Masons in Sherbrooke, Quebec, and Karnak Temple, Nobles of the Mystic Shrine.

Death of Mr. Dresser came within a few days of his receiving a twenty-year service emblem of Crown Zellerbach Corporation.



## PACIFIC GEARED TRANSMISSIONS

FOR SPEED CONTROL • SPEED REDUCTION OR VARIABLE CONTROL



LARGE PACIFIC GEAR MOTORIZED SPEED REDUCER FOR THE LUMBER INDUSTRY.



PACIFIC G-E MOTORIZED GEAR UNIT DRIVES ARE IN EVERY INDUSTRY.



PACIFIC TRANSMISSIONS OPERATE PULP MILL AUTOMATIC.



PACIFIC SPEED REDUCERS DRIVE LUMBER MILL CONVEYORS.

From fractional horsepower to 2,000 horsepower Pacific-Western plants can supply you with fixed ratio or variable speed transmission and power-take-off units for almost any purpose. Bring your problems to us first—design later. We can help you save time, space and cost.

### WESTERN GEAR WORKS

417 9th Ave. So  
SEATTLE



ASSOCIATED COMPANIES  
WESTERN GEAR WORKS—Lynwood, California  
PACIFIC GEAR & TOOL WORKS—San Francisco  
PACIFIC GEAR WORKS—Los Angeles, Calif.

## Jack Hanny Eats An Owl—Gladly

● J. E. Hanny, resident manager, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, Washington, ceremoniously partook of a meal of owl hamburger at the foreman's meeting September 5th. Mr. Hanny had previously agreed to eat an owl when the regular payroll deduction for purchase of War Bonds reached ten per cent of the total monthly payroll.

Approximately 100 foremen and subforemen witnessed the five-course "game" dinner and are reported to have enjoyed it to no end.

## Longfibre Bowling League Opens New Season

● The Longfibre Bowling League, composed of employees of Longview Fibre Company, Longview, Washington, commenced its 1942-43 season September 15th, which is the third consecutive year the league has held winter play-offs followed with competitive tournaments.

There are nine teams in the league, with eight teams playing weekly. The teams are as follows: Supervisors, Machine Room, Mechanics, Bag Factory, Office, Box Factory, Pipefitters, Pulp Mill and Control.

The women's team from Longview Fibre Company is participating in Women's Bowling League of Longview.

## Jim Wilson Earns a Vacation

● J. A. Wilson, assistant mill manager, Hawley Pulp and Paper Company, Oregon City, Oregon, vacationed during the week of September 20th. Most of the week was spent at home, but he and his family spent part of the time at the beaches and in the Cascade mountains.

## First Aid Classes Start at Camas

● Primary first aid classes started at Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, Washington, on October 5th, holding training classes for both men and women. Company employees and members of their families are eligible to attend, as are the townspeople, providing the classes are capable of accommodating the non-employees.

This is a ten-week course of two hours per week, offered by the safety department under the direction of Jack F. Robertson, safety supervisor, in interest of accident prevention.

Sixteen qualified instructors are teaching the classes; three for the women's classes and 13 for the men.

The women instructors are Geneva Persons, who is employed in number two finishing room; Anna Tall, of the converting plant; and Mary Dole, of the bag factory. Men instructors are as follows: L. R. Mullineau, steam plant; Lawrence Koplin, technical control department; Leo Essen, paper machine tender; J. H. Rickard, millwright; L. W. Bailie, electrician; D. D. Hutchison, machine shop; E. W. White, millwright; H. A. Mason, order department; Gene Quilci, bag factory adjutor; J. M. Miller, engineer; J. B. Holmes, bag factory; Fred Weakley, safety department; and H. E. Burnett, personnel department.

## Mrs. Natwick Returns From San Francisco Hospital

● Mrs. A. G. Natwick of Camas, Washington, returned home September 26th, having been in San Francisco, California, eight weeks for a major surgical operation at the University of California hospital. She is well along toward recovery and was able to be up and around home by the end of September, according to A. G. Natwick, assistant resident manager, Crown Willamette Paper Company, Division of Crown Zellerbach Corporation at Camas. Mrs. Natwick will return to San Francisco later this fall for a second operation.

## Irving Rau's Bond Committee Meets Quotas

● Columbia County of Oregon has met its regular monthly quotas of War Bond sales although the Nation's quota is down 22 per cent for the months of August and September, according to Irving T. Rau, chairman of the Columbia County War Bond Board, and secretary-treasurer of the St. Helens Pulp and Paper Company.

Mr. Rau is one of the Pacific Coast members of the Pulpwood Advisory Committee which met in Washington, D. C., early in September. While in the East he attended some of the baseball games, seeing the Cardinals play Brooklyn in Brooklyn and the Cardinals play the Boston Red Sox in St. Louis. He returned to St. Helens September 18th.

FIELD NOTES

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Make sure that air temperature is as low as is consistent with your operation.

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### Record Per Capita Paper Consumption Set In 1941

● In its Monthly Statistical Summary for August, just lately released, the American Paper & Pulp Association presents a table of United States paper consumption from the year 1899 through 1941 with several years omitted for lack of data. The average ratio of operations to capacity for the 29 years given is 77 per cent.

Production jumped from 2,167,593 tons in 1899 to 17,272,914 tons in 1941. Imports of paper ranged from 55,962 tons in 1909 (first year given) to 2,975,200 tons in 1941, while exports ran from 77,704 tons in 1904 to 486,875 tons in 1941. The peak export year was 1940 when 578,248 tons were shipped out of the country.

Apparent consumption, production, plus imports, minus exports, was 2,167,593 tons in 1899 and expanded to a high of 19,761,239 tons last year.

Per capita consumption has grown enormously, from 57.9 pounds per capita in 1899 to 299.4 pounds in 1941, a new record. Until 1936, the 220.7 pounds per capita consumption in 1929 stood as the record. In 1936 the per capita consumption rose to 228.1 pounds and in 1937 it went up again to 248.2 pounds. It dropped to 207.8 pounds in 1938, but rose again in 1939 when 243.4 pounds were consumed per capita. In 1940 the rate went up to 254.2 pounds

### St. Helens Replaces Roof While Machine Runs

● The roof over number one machine of St. Helens Pulp and Paper Company, St. Helens, Oregon, is now being replaced without stopping operation of the paper machine. A platform has been built on the bridge crane operating over the paper machine to facilitate building the new roof. The platform is wide enough to cover two bays and is floored for the dual purpose of protecting the men and machinery under the crane and to provide suitable platform for the roof workers.

Wolmanized four by eight-inch timbers are layed flat and connected together with one and one-half inch splines which fit into grooves in the edges of the timbers. A layer of one-inch Fir-Tex is layed over the planking for insulation and is in turn covered with three layers of roofing paper which is mopped down with hot asphalt.

According to Max Oberdorfer, Jr., assistant manager, the new roof is to be completed about the end of October.

### Homer Best In Coast Guard Reserve

● Homer Best, machine room foreman, Longview Mill, Pulp Division Weyerhaeuser Timber Company, Longview, Washington, became a United States Coast Guard reserve on September 22nd, and is awaiting call to active duty.

### Glass Bottles Become Liquid Fuel Floats

● Metal floats are widely used in the pulp and paper industry for activating controls determining the levels of water and other liquids in tanks. The Longview Mill, Pulp Division Weyerhaeuser Timber Company, Longview, Washington, is employing glass bottles, jars, or demijohns when the metal floats need replacement. Though in each case the amount of metal saved is small, the total would be large if the practice becomes widespread.

### Captain Triplett Attends Everett TAPPI Dinner

● Captain Cecil L. Triplett, Chemical Warfare Service, U. S. Army, San Francisco, attended the dinner meeting sponsored by the Pacific Section of TAPPI at Everett October 6th, and talked with many of his old friends in the industry.

Captain Triplett was project chemist for the Hawley Pulp & Paper Company, Oregon City, prior to being called to active duty in 1940. He was the winner of TAPPI's Shibley Award for the paper presented at a dinner meeting in 1940.

### Bailey Meter Company Opens Two New Coast Offices

● The Bailey Meter Company, Cleveland, Ohio, announced September 15th, the opening of two new Pacific Coast branch offices in Los Angeles and in Seattle. L. F. Richardson was appointed branch manager in Los Angeles and H. T. Sawyer branch manager in Seattle. Messrs. Richardson and Sawyer had previously been located in Los Angeles and Seattle but had functioned as representatives of the San Francisco branch office.

V. A. Rumble, manager of the Bailey Meter Company's San Francisco branch office, will continue as West Coast supervisor.

Opening of these two additional branch offices enables the many war plants located in West Coast areas to more easily secure experienced advice and assistance regarding the proper selection, application and use of boiler room, metering and control equipment.

### Shelton Rayonier Employees Receive Service Pins

● Over 100 service pins designating five, ten and fifteen years employment with Rayonier Incorporated were presented employees of the Shelton division plant September 10th at a Pioneer Club and Service Pin banquet held in Memorial Hall. The occasion also observed the 15th anniversary of the start of operation of the Shelton plant.

In addition, nine members of the Pioneer Club were also presented pins. D. B. Davies, pioneer executive of the local plant, made the presentation of pins and gave a brief talk, along with plant manager George Cropper and Pioneer Club president Ted Little.

The nine pioneers honored included A. J. Ferguson, Lloyd Fosdick, Charles R. Hurst, F. R. Murphy, John Pickney, James Rutledge, George Trowbridge, Albert Thompson, and Edward Buchanan.

Fifteen-year service pins were awarded to employees who were on the payroll as of May 1, 1927, ten-year pins to those on the payroll May 1, 1932, and five-year pins to those on the payroll May 1, 1937.

## Eastwood Employees Contribute Pay to Army-Navy Relief

● With a large American flag as a fitting background, the employees of the Eastwood-Nealley Corporation of Belleville, N. J., manufacturers of fourdrinier wires, presented checks totalling \$2,500.00 to representatives of the Navy Relief Society and the Army Emergency Relief Society on September 3rd. A check for \$1,250.00 was presented to each society. Mr. Edward Powers and Mr. William Peck represented the employees.

Every employee agreed to contribute half a day's pay to the funds and the company matched the contributions of the employees making a total of \$2,500.00.

The Eastwood-Nealley Corporation is the oldest company in Belleville, having started in business in 1877. The plant is engaged in the manufacture of many products for the Army, the Navy, the Signal Corps and the Maritime Commission.

The flag used in the ceremony is 26 feet long and 16 feet wide bearing 45 stars. The flag was used in 1896 in the McKinley-Bryan campaign and was also used during the Spanish American War, as well as the last World War. The flag, bearing 45 stars, indicated that three states have joined the Union since its manufacture; Oklahoma joined in 1907 and Arizona and New Mexico in 1912.

Lieut. Com. John H. Auerbach accepted the check for the Navy Relief Society and Captain F. V. Smith for the Army Emergency Relief. Mr. Harry G. Specht, vice president and general manager of the company, introduced the program and outlined that the United States, having fought in the Spanish American War for the freedom of Cuba, gave such freedom to Cuba under its own constitution in 1902 and in granting freedom to the Philippines, is again fighting for their freedom in order that they may enjoy the management of their own affairs under their own constitution. He pointed out that we are again engaged in a world struggle with the hope of giving freedom to the other nations of the world who are now enslaved; that we could only get such freedom through the united effort of all the people of this country not only now but in the winning of the peace to come.

The company has on its payroll 250 employees. It was pointed out that the contribution of \$2,500.00, averaged \$10.00 per person, and was a liberal one and if followed by all organizations in this country, the Navy and Army Relief Societies would receive contributions of worth while amounts.

## Herb Metcalf Joins the Navy

● Herbert Metcalf, chemist with the Puget Sound Pulp & Timber Company, Bellingham, is now a Lieutenant (j.g.) in the Navy. At the end of September he left for Pensacola, Florida, to join Naval Aviation Ordinance.

On his way he stopped in Des Moines, Iowa, to visit his wife who had preceded him into the service by joining the W.A. A.C.'s. Herbert Metcalf is rated one of the best rifle shots in Northwestern Washington.

## Camas Fall Golf Tournament Under Way

● The fall tournament of Crown Willamette Golf Association at Camas, Washington, started in late September. The play-off consists of four 16-man flights and is to be concluded by October 29th when the final golf dinner of the season will be held. Winners are receiving the usual "glass trophies" and defense stamps.

## Camas Fishermen Refuse To Reveal Catch

● "Plenty of Chinook salmon" were caught by a group of the more select fishermen employees of Crown Willamette Paper Company, Division of Crown Zellerbach Corporation of Camas, Washington, on a trip to Celilo Falls, September 5th to 13th. The exact number of fish caught were not divulged as the figures were deemed valuable to the "enemy." The men making up this fishing party included Tom Goodwin, chief paper inspector; Bill Fritz, order department; Clarence Shaw, converted products quality supervisor; and G. H. "Pinky" Gallaway, acting technical supervisor.

A. G. "Buff" Natwick, assistant resident manager, spent one and one-half days with the party and is reported to have contributed "one small steelhead to the catch."

A group of the more ardent fishermen from the Camas plant make this pilgrimage an annual event.

## Stanton Heads C. Z. Club

Al Stanton, of the Traffic department, has been elected president of the C.Z. Club, organization composed of 275 employees of Crown Zellerbach Corporation, San Francisco.

Other officers are W. H. West, vice-president; Louis Liati, treasurer; Roberta Monson, secretary, and the following directors; Ruth Lobel, Nelly Johansen, Lyle Tidland, Shearman Gue, and Walt Howard.

One of the interesting activities of the club is exchange of letters with former co-workers now in the armed forces, keeping them informed on what's doing on the home front.

Two of the latest to don uniforms are David C. Cutting, clerk in the order department, who has enlisted in the Navy, and Saul Simon, reproduction department, who has joined the Army Air Corps.

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## Weyerhaeuser Mill Repairs Sprocket Teeth

● A part of the current conservation of critical materials program of Longview Mill, Pulp Division Weyerhaeuser Timber Company, Longview, Washington, is the building up or replacement of worn teeth on large sprocket wheels carrying conveyor roller chain or rivetless chain. The new teeth are built up with a welding torch; the teeth either being located on the same part of the sprocket wheels as formerly or placed in a new position on the wheel, depending on condition of the worn sprocket.

## Mohn Taking Part in Spokane War Chest Drive

● A. G. Mohn, manager, Zellerbach Paper Company, Spokane, Washington, has been named chairman of national corporation solicitation for Spokane's Community and War Chest campaign, whose contributions have always made up a large part of the fund.

"National corporations have always generously supported Spokane's Community Chest," said Mr. Mohn. These organizations today take an active part in our civic life, show an increasing interest in local problems and fully recognize their local responsibilities. Indications are that increased needs this year will find an increased response from these organizations.



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